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# United States Department of Agriculture,

OFFICE OF EXPERIMENT STATIONS,

A. C. TRUE, Director.

## LIST OF STATION PUBLICATIONS RECEIVED BY THE OFFICE OF EXPERIMENT STATIONS DURING JANUARY, 1908.

NOTE.—These publications are not distributed by the Department of Agriculture, but can usually be obtained, as far as the supply will permit, by applying to the stations issuing them.

ARIZONA STATION, Tucson, R. H. Forbes, Director.

The Scale Insects of the Date Palm. By T. D. A. Cockerell. The Extermination of Date-Palm Scales. By R. H. Forbes. (Bulletin 56, pp. 181-207, pls. 6, figs. 4.)

Descriptive and biological notes on the various scale insects attacking the date palm and the means for their eradication are reported in this bulletin.

CALIFORNIA STATION, Berkeley, E. J. Wickson, Director.

Insects Injurious to the Vine in California. By H. J. Quayle. (Bulletin 192, pp. 99-140, figs. 24.)

Descriptive and remedial notes are given on the following insects attacking the grapevine in California: Phylloxera (*Phylloxera vastatrix*), grape leaf-hopper (*Typhlocyba comes*), imported grape root worm (*Adoxus vitis*), hawk moth larvæ, grasshoppers, cutworms and army worms, flea beetles, grape leaf-folder (*Desmia funeralis*), leaf chafers, wireworms, erinose, and nematode root gall (*Heterodera radicola*).

The Best Wine Grapes for California—Pruning Young Vines—Pruning the Sultanina. By F. T. Bioletti. (Bulletin 193, pp. 141-160, figs. 10.)

A list of wine grapes recommended for California is presented and discussed, and the pruning and training of young vines, particularly of the "Thompson Seedless," or Sultanina, are described and illustrated.

CONNECTICUT STATE STATION, New Haven, E. H. Jenkins, Director.

Spray Calendar. By W. E. Britton. (Bulletin 159, folio.)

Notes are given on the various insect pests and fungous diseases affecting fruits, vegetables, and flowers, and directions are given for the preparation and use of suitable insecticides and fungicides.

Food Products, 1907. By E. H. Jenkins and A. L. Winton. (Biennial Report, 1907-8, Part II, pp. 121-164.)

This report gives the results of food-inspection work during 1907, including analyses of samples collected by the station's inspectors and the dairy commissioner and assistants and sent in to the station by individuals.

Commercial Feeding Stuffs, 1907. By E. H. Jenkins and J. P. Street. (Biennial Report, 1907-8, Part III, pp. 165-209.)

This report gives the microscopic and chemical analyses of 197 samples of feeding stuffs collected by the station agent and of 40 samples sent in by individuals during 1907.

CONNECTICUT STORRS STATION, Storrs, L. A. Clinton, Director.

Squab Investigations. By C. K. Graham. (Bulletin 50, pp. 13-59, figs. 20.)

This bulletin treats of the squab industry in the United States and gives the results of experiments at the station in raising squabs with a view of determining the economic merits of the industry. The topics discussed include the selection, breeding, feeding, killing, dressing, and marketing of stock, together with notes on the buildings and their outfits in different parts of the country.

FLORIDA STATION, Gainesville, P. H. Rolfs, Director.

Pig Feeding with Cassava and Sweet Potatoes. By C. M. Conner. (Bulletin 90, pp. 12.)

The results of experiments covering several years to determine the feeding value of cassava and sweet potatoes for pork production are reported.

GEORGIA STATION, Experiment, M. V. Calvin, Director.

Variety Tests of Cotton and Corn. By M. V. Calvin. (Circular 65, pp. 4.)

Tabulated data regarding the results of tests with 26 varieties of cotton and 14 of corn are reported.

IOWA STATION, Ames, C. F. Curtiss, Director.

A New Soil Sampler. By W. H. Stevenson. (Bulletin 94, pp. 31, figs. 17.)

This bulletin compares the methods of soil sampling now in use with a new soil sampler devised at the station by means of which an operator can take, "in a comparatively short time, a core of soil 3 inches in diameter and of any desired depth up to about 15 inches." The new apparatus is described and illustrated in detail, and the method of operating the sampler is explained.

KANSAS STATION, Manhattan, C. W. Burkett, Director.

The Hen's Place on the Farm. By O. Erf. (Bulletin 150, pp. 17-78, figs. 16.)

This bulletin discusses the origin and value of different breeds of fowls, standard-bred poultry on the farm, methods of incubation and care of the chickens, marketing poultry in Kansas, the crate-fed chicken industry, caponizing, and the storage, grading, and shipping of eggs. Directions are also given for the improvement and care of the flock and notes on the kind and construction of poultry houses.

LOUISIANA STATIONS, Baton Rouge, W. R. Dodson, Director.

Analyses of Commercial Feeding Stuffs. By J. E. Halligan et al. (Bulletin 98, pp. 141.)

Analyses of 6,469 samples of feeding stuffs collected in the course of inspection during the season 1906-7 are reported. The list includes cotton-seed meal, rice bran, rice polish, wheat products, molasses feeds, corn chops, corn and oat feeds, hominy, feed meal, brewer's grains, poultry feeds, and miscellaneous samples.

MAINE STATION, Orono, C. D. Woods, Director.

Insect Notes for 1907. By Edith M. Patch. (Bulletin 148, pp. 257-285, figs. 10.)

"This bulletin contains notes upon orchard insects, grasshoppers, beetles, a forest attack by one of 'The Prominent,' Aroostook potato insects, and brief notes upon the other chief insects of the year."

MASSACHUSETTS STATION, Amherst, W. P. Brooks, Director.

Molasses and Molasses Feeds for Farm Stock. By J. B. Lindsey, E. B. Holland, and P. H. Smith. (Bulletin 118, pp. 32.)

"This bulletin contains information relative to the composition, digestibility, and nutritive effects of molasses and molasses feeds for dairy stock, horses, and swine. In addition to a brief description of the experiments carried on at this station, reference is also made to the results of foreign investigations. The principal object of the bulletin is to make clear to the feeder the place of these feed stuffs in the farm economy."

Meteorological Observations. By J. E. Ostrander and T. A. Barry. (Meteorological Bulletin 228, pp. 4.)

This is a summary for December, 1907.

MISSOURI STATION, Columbia, H. J. Waters, Director.

Fattening Cattle for the Market. By H. J. Waters. (Bulletin 76, pp. 141, figs. 19.)

Part 1 of this bulletin is a study of the most approved practices in beef production in the corn belt, and part 2 gives a summary of some of the feeding experiments conducted at the station. The purpose of the bulletin has been to cover somewhat carefully for the use of the student, practical feeder, and teacher the entire range of fitting cattle for the market.

NEW JERSEY STATIONS, New Brunswick, E. B. Voorhees, Director.

The New Jersey Salt Marsh and Its Improvement. By J. B. Smith. (Bulletin 207, pp. 24, pls. 3, figs. 4.)

This bulletin reports the results of an inquiry into the area of salt-marsh land in the State that could be improved by drainage, its probable increase in value, and the effects of drainage in rendering areas comfortably habitable that are now practically abandoned because of mosquito infestation.

Analyses and Valuations of Commercial Fertilizers and Ground Bone.

By C. S. Cathcart, V. J. Carberry, and J. Gaub. (Bulletin 208, pp. 34.)

This bulletin is supplementary to Bulletin 206 and gives the balance of the analyses for the year 1907, together with a discussion of the whole inspection for the year.

Novelties in Vegetable Fruits. General Trial for 1908. By B. D. Halsted. (Bulletin 209, pp. 24, figs. 14.)

In this bulletin are presented the results of experiments in growing novelties in the vegetable line at the station in 1907, the extent of the distribution of seeds, and a list of seeds and the regulations concerning their distribution for the season of 1908.

NEW YORK CORNELL STATION, Ithaca, L. H. Bailey, Director.

Comparison of Four Methods of Feeding Early Hatched Pullets. By J. E. Rice. (Bulletin 249, pp. 229-264, figs. 4, dgms. 12.)

The object of the experiments reported in this bulletin was to find out how to feed early hatched pullets in order to secure the best results in development, production, and profit.

Twentieth Annual Report, 1907. (Annual Report, 1907, pp. xx+264.)

This report contains a review of the work by the director in the different departments of the station, a financial statement, and reprints of Bulletins 241-249, inclusive.

**NEW YORK STATE STATION, Geneva, W. H. Jordan, Director.**

**Report of Analyses of Samples of Fertilizers Collected by the Commissioner of Agriculture during 1907. (Bulletin 294, pp. 297-379.)**

There are presented in this bulletin the analyses of samples of fertilizers collected during 1907 and published by the director of the New York Agricultural Experiment Station without comment, in accordance with the provisions of the State law.

**OREGON STATION, Corvallis, J. Withycombe, Director.**

**Disease of Turkeys (Infectious Enterobacteriosis). By E. F. Pernot. (Bulletin 95, pp. 8, pls. 2.)**

Notes are given in this bulletin on the nature, cause, symptoms, and treatment of the blackhead disease in turkeys.

**The Poultry Industry in Oregon. By J. Dryden. (Bulletin 96, pp. 40, figs. 23.)**

The object of this bulletin is to develop the poultry industry in Oregon. The topics discussed are the importance of the industry, marketing, possibilities of the industry, the relation of climate and soil to poultry keeping, and methods of housing.

**PENNSYLVANIA STATION, State College, T. F. Hunt, Director.**

**Feed as a Source of Energy. By H. P. Armsby. (Bulletin 84, pp. 16, figs. 4.)**

This bulletin gives the results of experiments with the respiration calorimeter made in cooperation with the Bureau of Animal Industry of this Department. The investigations were made for the purpose of determining the scientific principles underlying the profitable conversion of stock feeds into animal products fit for the nutrition of man.

**RHODE ISLAND STATION, Kingston, H. J. Wheeler, Director.**

**The Rearing and Management of Turkeys, with Special Reference to the Blackhead Disease. By C. Curtice. (Bulletin 123, pp. 64, fig. 1.)**

This bulletin gives notes on the infectious disease among turkeys known as blackhead, discusses the symptoms, transmission, and treatment of the disease, and gives the results of experiments conducted by the station for several years in efforts to control the disease. Brief notes are also given on other diseases to which turkeys are subject.

**Further Experiments in Connection with the Blackhead Disease in Turkeys. By C. Curtice. (Bulletin 124, pp. 67-105.)**

This bulletin gives the results of cooperative experiments between the station and the Bureau of Animal Industry of this Department which were made for the purpose of producing, if possible, a strain of turkeys immune to the blackhead disease.

**Commercial Fertilizers. By B. L. Hartwell, J. F. Morgan, and L. F. Whipple. (Bulletin 125, pp. 109-122.)**

This bulletin is supplementary to Bulletin 122 and contains the analyses of the balance of fertilizers collected in the course of inspection during the year 1907.

**SOUTH CAROLINA STATION, Clemson College, J. N. Harper, Director.**

**Rotundifolia Grapes. By C. C. Newman. (Bulletin 132, pp. 18, figs. 8.)**

Notes are given in this bulletin on the propagation, planting, pruning, training, fertilizing, culture, and varieties of the rotundifolia type of grapes.

Report of Coast Land Experiments. By J. M. Jenkins. (Bulletin 133, pp. 10.)

The results of experiments with a large number of forage crops grown at the Clemson College Coast Land Experiment Station in 1906 are reported in tables.

VIRGINIA STATION, Blacksburg, J. Spencer, Acting Director.

Studies in Milk and Butter Production. By A. M. Soule, J. R. Fain, and M. P. Jarnagin. (Bulletin 170, pp. 44, figs. 8.)

The methods practiced at the station, the records of the station's herds, and the application of the results to the development of the dairy industry in the South are discussed in this bulletin.

The Development of Grade and Cross-bred Beef Cattle. By J. R. Fain and M. P. Jarnagin. (Bulletin 171, pp. 47-79, figs. 8.)

The objects of the work described in this bulletin were (1) to study the relative development of the several parts of the animal as determined by actual measurements and (2) to study the laws of breeding. The valuable data secured from tests along these lines are here presented.

Grains to Supplement Skim Milk for Calves. By J. R. Fain and M. P. Jarnagin. (Bulletin 172, pp. 83-94.)

The object of the feeding trials reported in this bulletin was to gain some idea of the comparative value of different grains and whole and ground grain to supplement skim milk for the economical production of calves.

Finishing Beef Cattle. By A. M. Soule, J. R. Fain, and M. P. Jarnagin. (Bulletin 173, pp. 97-122, figs. 4.)

This bulletin gives the results of feeding trials to determine the merits of finishing cattle in the stall as compared with carrying them through the winter as stockers and finishing on grass.

WISCONSIN STATION, Madison, H. L. Russell, Director.

Portable Hog Houses. By J. G. Fuller and C. A. Ocock. (Bulletin 153, pp. 28, figs. 21.)

This bulletin is devoted to the construction and practical advantages of portable hog houses and is presented for the purpose of helping the practical farmers in Wisconsin and answering inquiries on this subject.

The Distribution of Stallions in Wisconsin. By A. S. Alexander. (Bulletin 155, pp. 172, figs. 13.)

This bulletin gives the text of the Wisconsin stallion law enacted June 27, 1907. It discusses this law in relation to Wisconsin conditions and gives a summary of stallion-service legislation in other States, the number and breed of stallions in each county of Wisconsin, and a directory of owners of stallions and jacks licensed in 1906 which is reprinted from Bulletin 141 of the station.

A Simple Test for Casein in Milk and Its Relation to the Dairy Industry. By E. B. Hart. (Bulletin 156, pp. 22, figs. 7.)

This bulletin discusses the significance of the fat test in milk to milk producers and butter and cheese manufacturers and gives the principles involved in the method practiced by the station and descriptions of the apparatus used in the tests.







# United States Department of Agriculture,

## OFFICE OF EXPERIMENT STATIONS

A. C. TRUE, Director.

### LIST OF STATION PUBLICATIONS RECEIVED BY THE OFFICE OF EXPERIMENT STATIONS DURING FEBRUARY, 1908.

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ARKANSAS STATION, Fayetteville, W. G. Vincenheller, Director.

Twentieth Annual Report, 1907. (Annual Report, 1907, pp. 89.)

This contains the director's report reviewing the work of the station during the year, reports by the heads of departments, a list of station bulletins indicating those now available for distribution, a financial statement for the year ended June 30, 1907, and reprints of Bulletins 92-95.

COLORADO STATION, Fort Collins, L. G. Carpenter, Director.

Cantaloupe Breeding. By P. K. Blinn. (Bulletin 126, pp. 10, figs. 4.)

The object of this bulletin is to outline the methods and results of breeding experiments for the improvement of cantaloupes conducted at the station.

CONNECTICUT STATE STATION, New Haven, E. H. Jenkins, Director.

Blight and Rot of Potatoes. By G. P. Clinton. (Bulletin of Immediate Information 2, pp. 4.)

Brief notes are given in this bulletin on the nature of potato diseases and suggestions for spraying for the blight, including notes on the apparatus, time for spraying, and preparation of Bordeaux mixture. Suggestions are also given regarding the cause and prevention of the rotting of potatoes.

The Fumigation and Treatment of Nursery Stock. By W. E. Britton. (Bulletin of Immediate Information 3, pp. 8, figs. 5.)

In this bulletin a suitable fumigating house is described and illustrated, and directions for fumigating nursery stock with hydrocyanic-acid gas are presented. Notes are also given on the spraying of growing nursery stock.

Root-Rot of Tobacco. By E. H. Jenkins and G. P. Clinton. (Bulletin of Immediate Information 4, pp. 11, figs. 4.)

This bulletin is a preliminary report on the results of investigations made by the director and botanist of the station regarding the prevalence of the root-rot of tobacco in the seed beds and fields throughout the State in 1907.

The Gipsy Moth Situation and the New Law. By W. E. Britton. (Bulletin of Immediate Information 5, pp. 4.)

This bulletin contains the text of the State law relating to the suppression of the gipsy and brown-tail moths, and an appeal to the citizens of Connecticut to cooperate with the State entomologist in carrying out the provisions of the law.

FLORIDA STATION, Gainesville, P. H. Rolfs, Director.

**Tomato Diseases.** By P. H. Rolfs. (Bulletin 91, pp. 11-34, pls. 3, fig. 1.)

This bulletin describes a number of fungus diseases to which tomatoes are subject in Florida, outlines methods of treatment, and gives directions for making and applying the fungicides. Notes are also given on a number of insects which affect tomatoes.

GEORGIA STATION, Experiment, M. V. Calvin, Director.

**Corn Culture.** By M. V. Calvin and J. M. Kimbrough. (Bulletin 78, pp. 109-123.)

Notes on variety, cultural, and fertilizer tests with corn in 1907 are reported in this bulletin. The Williamson method of corn culture is described.

**Cotton Culture.** By M. V. Calvin and J. M. Kimbrough. (Bulletin 79, pp. 125-139.)

Notes on variety and fertilizer tests with cotton in 1907 are reported in this bulletin.

ILLINOIS STATION, Urbana, E. Davenport, Director.

**Type and Variability in Corn.** By E. Davenport and H. L. Rietz. (Bulletin 119, pp. 29.)

The purpose of this bulletin is to outline and define a clearer conception of type and variability than commonly rests in the breeder's mind, and to present certain data showing conditions that influence type and variability in corn.

**Milk Supply of Chicago and Twenty-six Other Cities.** By J. M. True-man. (Bulletin 120, pp. 39-70.)

The results of a detailed study conducted in 1905 and 1906 are reported, together with analyses of more than 1,100 samples of milk collected in the course of the investigations.

**Twentieth Annual Report, 1907.** (Annual Report, 1907, pp. 8.)

This contains a list of the publications, the principal lines of work during the year, a complete list of bulletins issued since the organization of the station, and a detailed financial statement.

INDIANA STATION, Lafayette, A. Goss, Director.

**Twentieth Annual Report, 1907.** (Annual Report, 1907, pp. 56.)

This contains the director's report reviewing the work of the station during the year, reports by the officers of the various departments, a list of bulletins issued by the station, and a financial statement for the year.

KENTUCKY STATION, Lexington, M. A. Scovell, Director.

**The Food of the Crow Blackbird. The Corn Rootworms.** By H. Garman. (Bulletin 130, pp. 17-48, figs. 3.)

In part 1 of this bulletin a description is given of the food habits of the purple grackle, with tabulated data on the results of the examination of the stomachs of a large number of these birds. Part 2 gives biological notes on the corn rootworms *Diabrotica 12-punctata* and *D. longicornis*.

**Concentrated Commercial Feeding Stuffs.** By J. D. Turner. (Bulletin 131, pp. 49-107.)

The text of the law is reported in this bulletin and the matter treated "relates to the methods adopted in carrying out the provisions of the law, the system of tagging, the method of inspection, results obtained, the effect of the

law on trade, composition of feeds, function of nutrients, essential ingredients, how to buy feeds, standards adopted, definition and description of products, classification of feeding stuffs, chemical analyses of samples taken by our inspectors, and registration list for 1907."

#### LOUISIANA STATIONS, Baton Rouge, W. R. Dodson, Director.

**Japanese Persimmons.** By F. H. Burnette. (Bulletin 99, pp. 23, figs. 14.)

Descriptive notes are given on a number of varieties of Japanese persimmons grown at the station during the past 18 years, many of the varieties being illustrated, together with a discussion of methods of propagation, care of the trees, treatment to remove astringency, enemies and diseases, marketing, and uses.

#### MAINE STATION, Orono, C. D. Woods, Director.

**Potato Diseases in 1907.** By W. J. Morse. (Bulletin 149, pp. 285-330, figs. 6.)

"This bulletin contains the results of spraying experiments upon potatoes in 1907 and notes upon potato diseases, new and old."

**Finances, Meteorology, Index.** (Bulletin 150, pp. 329-345+VIII.)

"This bulletin contains the summary of the meteorological observations, the report of the treasurer, the index for the bulletins issued in 1907, and the introduction to the annual report."

#### MARYLAND STATION, College Park, H. J. Patterson, Director.

**The Beef Cattle Industry in Maryland.** By B. E. Porter. (Bulletin 121, pp. 79-116, figs. 6.)

The object of this bulletin "has been to study the methods and practices of the growers and feeders of beef cattle, learn of the actual conditions of affairs and then, from the information and data collected from the various sources, to offer, if possible, some suggestions which might aid in bringing about an improvement of conditions which would result in increasing the industry."

**Stable Manure Experiments.** By W. T. L. Taliaferro and H. J. Patterson. (Bulletin 122, pp. 117-138.)

The results of experiments in the application of fresh and rotted manure conducted at the station for a number of years are reported in this bulletin. The value, physical and chemical effects, and care of different kinds of farm manures are also discussed.

**San José Scale and the Peach Lecanium.** By T. B. Symons and G. P. Weldon. (Bulletin 123, pp. 139-160, figs. 5.)

The results of tests with various insecticides for the control of the San José scale during 1907 are reported in this bulletin, the work being largely a record of the results of the plan of conducting public sprayers inaugurated by the State entomologist during the past season.

#### MASSACHUSETTS STATION, Amherst, W. P. Brooks, Director.

**Inspection of Commercial Fertilizers.** By H. D. Haskins, E. T. Ladd, and W. E. Dickinson. (Bulletin 119, pp. 64.)

This bulletin contains the chemical analyses of licensed commercial fertilizers sold in Massachusetts during 1907. The details of the inspection are explained and discussed, deductions are drawn, and a summary shows the general condition of the fertilizer industry as regards composition of the various brands. The comparative standing of the several firms is shown as based on results of the inspection.

**Meteorological Observations.** By J. E. Ostrander and T. A. Barry. (Meteorological Bulletin 229, pp. 4.)

This is a summary for January, 1908.

Circulars on Miscellaneous Topics. By J. B. Lindsey et al. (Circulars 1, pp. 8; 2, 4, 5, 7, 11, pp. 2 each; 3, pp. 4, figs. 2; 6, 10, pp. 3 each; 8, pp. 13; 9, pp. 6.)

These circulars contain popular information on a variety of subjects relating to agriculture. The numbers with titles are as follows: 1, Cottonseed Meal; 2, Cutworms; 3, The Apple Maggot or Railroad Worm (*Rhagoletis pomonella*); 4, Wireworms; 5, Root Maggots; 6, The Lecaniums, or Soft Scales; 7, Ants; 8, List of Bulletins; 9, Rules Relative to Testing Dairy Cows; 10, The Sampling and Sending of Fertilizers, Soils, and Feed Stuffs for Free Examination; 11, Chemical Analysis of Soils.

MICHIGAN STATION, East Lansing, C. D. Smith, Director.

College Farm Buildings. By R. S. Shaw and J. A. Jeffery. (Bulletin 250, pp. 37-108, figs. 50.)

This bulletin contains descriptions of the college farm buildings for the purpose of suggesting to farmers ideas of practical value and at the same time serve as a safeguard against some known errors of location and construction.

NEBRASKA STATION, Lincoln, E. A. Burnett, Director.

The Bud Rot of Carnations. By F. D. Heald. A Mite Accompanying the Bud Rot of Carnations. By R. H. Wolcott. (Bulletin 103, pp. 33, pls. 8.)

In this bulletin historical notes are given on the bud-rot disease and on the mite which usually accompanies the disease, with notes on its symptoms, cause, and treatment. The mite, to which the name *Pediculoides dianthophilus* is given, is described and illustrated.

NEW JERSEY STATIONS, New Brunswick, E. B. Voorhees, Director.

Some Chemical and Bacteriological Effects of Liming. By E. B. Voorhees, J. G. Lipman, and P. E. Brown. (Bulletin 210, pp. 79.)

The experiments described in this bulletin were arranged "to supply data concerning the effect of liming on the development of certain groups of soil bacteria. A portion of the soils used was to bear crops so that a comparison might be secured between the influence of liming on higher plants and on lower plants (bacteria)."

NEW YORK CORNELL STATION, Ithaca, L. H. Bailey, Director.

Twentieth Annual Report, 1907. (Annual Report, 1907, pp. XX+264, figs. 129.)

This contains a report by the director reviewing the work of the station during the year, a financial statement, and reprints of Bulletins 241-249 issued during the year.

NEW YORK STATE STATION, Geneva, W. H. Jordan, Director.

Control of Scale in Old Apple Orchards. By P. J. Parrott, H. E. Hodgkiss, and W. J. Schoene. (Bulletin 296, pp. 30, pls. 4.)

The purpose of this bulletin is to give the results of experiments to control the San José scale, to show the relative cost of treatment by the more efficient remedies, and as far as present knowledge permits, to suggest methods of affording suitable protection to fruit trees.

Twenty-fifth Annual Report, 1906. (Annual Report, 1906, pp. 470.)

This contains the customary financial, executive, and departmental reports for the year ended September 30, 1906, reprints of a number of bulletins, a list of periodicals received by the station, and meteorological records for 1906.

OHIO STATION, Wooster, C. E. Thorne, Director.

Fattening Range Lambs. By B. E. Carmichael. (Bulletin 187, pp. 7-35, figs. 7.)

The objects of the experiments reported in this bulletin were: "(1) To secure additional data on the advisability of feeding a proprietary stock food or linseed oilmeal to fattening range lambs in connection with corn and nitrogenous roughage (clover in this case); (2) to compare heavy feeding of grain with moderate feeding of grain; (3) to compare the rate of gains made by ewe lambs and by wether lambs, and (4) to secure additional data on that subject of great and growing importance, the production of manure by farm animals."

PENNSYLVANIA STATION, State College, T. F. Hunt, Director.

Annual Report, 1906. (Annual Report, 1906, pp. 242.)

This contains a financial statement for the fiscal year ended June 30, 1906, reports by the director and heads of departments, and the following special articles: Experiments in growing Sumatra tobacco under shelter tent, 1904; the influence of nitrogenous, phosphatic, and potassic fertilizers upon the percentage of nitrogen and mineral constituents of the oat plant; report on the composition of milk from herds competing for advanced registration; notes on the digestibility of pentosans; forage and soiling experiments, 1905; variety tests; preliminary observations on protein supply of dairy herd; a comparison of alfalfa meal and wheat bran for dairy cows; methods of steer feeding; investigations in the use of the bomb calorimeter; a test of commercial cultures for legumes; and small fruits in 1905. Detailed meteorological records for 1905 are appended.

SOUTH CAROLINA STATION, Clemson College, J. N. Harper, Director.

The San José Scale. By A. F. Conradi. (Bulletin 134, pp. 20, figs. 11.)

This bulletin contains popular information regarding the life history, habits, and means of controlling the San José scale, which is presented for the purpose of enabling the farmers and fruit growers of the State to combat this insect where it already occurs, as well as to detect it in case it makes its appearance.

WASHINGTON STATION, Pullman, R. W. Thatcher, Director.

Announcements. By R. W. Thatcher. (Popular Bulletin 1, pp. 4.)

This bulletin inaugurates a new series by the station for the purpose of laying information of practical value before the farmers of the State, and contains an outline of the proposed plan and other matters relating to the organization and work of the station.

The Sulphur-Lime Wash. By A. L. Melander. (Popular Bulletin 2, pp. 4.)

Notes are given in this bulletin on the value of lime-sulphur wash as an insecticide, its preparation and use, and a spraying calendar relating to the most common insect pests and fungus diseases.

WISCONSIN STATION, Madison, H. L. Russell, Director.

Tuberculosis of Domestic Stock and Its Control. By H. L. Russell. (Special Bulletin, pp. 6, figs. 2.)

Popular notes on the symptoms, cause, mode of transmission, and diagnosis of tuberculosis in cattle are given in this bulletin.

The Seeding, Growing, and Curing of Alfalfa. By R. A. Moore. (Special Bulletin, pp. 12, figs. 6.)

Notes on the culture of alfalfa in Wisconsin as based on the experience of the station with this crop during the past 7 years.







# United States Department of Agriculture,

## OFFICE OF EXPERIMENT STATIONS,

A. C. TRUE, Director.

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ALABAMA COLLEGE STATION, Auburn, J. F. Duggar, Director.

Cedar Apples and Apple Leaf-Rust. By R. E. Stone. (Circular 2, pp. 11, figs. 2.)

The connection of the apple rust or orchard rust with the so-called "cedar apples" on species of cedar is fully described in this circular, including notes on the relative susceptibility of apples to rust and the means of preventing apple rust.

Twentieth Annual Report, 1907. (Annual Report, 1907, pp. 38.)

This contains a financial statement for the fiscal year ended June 30, 1907, and brief reports by the director and heads of divisions reviewing the work of the station during the year.

ARKANSAS STATION, Fayetteville, W. G. Vincenheller, Director.

Anthrax in Arkansas. By R. R. Dinwiddie. (Bulletin 96, pp. 89-111.)

This bulletin describes the outbreak of anthrax in 1905 and 1906, and gives notes on the nature, cause, symptoms, and prevention of this disease.

Anthrax and Anthrax Vaccines. By R. R. Dinwiddie. (Bulletin 97, pp. 111-132.)

This is a technical bulletin which treats of the history of this disease in the United States, laboratory diagnosis, spore formation in anthrax bacilli, vaccination against anthrax, and tests of commercial vaccines.

Rice. By R. J. Nelson. (Bulletin 98, pp. 131-148, figs. 4.)

Notes are given in this bulletin on the results of rice culture at the station in 1907, and suggestions are given to prospective planters with a view of solving some of the problems relating to the growing of rice in Arkansas.

Farm Poultry. By W. S. Jacobs. (Bulletin 99, pp. 147-173, figs. 16.)

In this bulletin practical information is given regarding the raising, care, and management of poultry.

CALIFORNIA STATION, Berkeley, E. J. Wickson, Director.

White Fly in California. By C. W. Woodworth. (Circular 30, pp. 16, figs. 12.)

This circular calls attention to the introduction of the white fly into the State, points out the seriousness of the pest, and gives notes on its life history, habits, food plants, and methods of control.

The Agricultural College and its Relationship to the Scheme of National Education. By E. J. Wickson. (Circular 31, pp. 7.)

This is an address delivered before the department of technical education of the National Educational Association at Los Angeles, July 11, 1907.

White Fly Eradication. By C. W. Woodworth. (Circular 32, pp. 15, figs. 11.)

A report of the work in the eradication of the white fly in California, with suggestions for the improvement of the methods practiced, is given in this circular.

Packing Prunes in Cans. Cane Sugar v. Beet Sugar. By G. W. Shaw. (Circular 33, pp. 8, figs. 3.)

The results of experiments in packing prunes in cans for the purpose of finding some method of preventing the sugaring of prunes when shipped into tropical climates are reported in this circular, together with certain experiments undertaken in the canning of fruit and the making of jellies, using beet sugar, and checking the results against the same kinds of fruit prepared in the same manner with cane sugar.

**CONNECTICUT STATE STATION**, New Haven, E. H. Jenkins, Director.

Annual Report of the Forester. By A. F. Hawes. (Annual Report, 1907, pt. 4, pp. 208-265, pls. 6.)

The forester's report for the year 1907 contains notes on the forestry planting experiments throughout Connecticut during the year.

Seventh Report of the State Entomologist. By W. E. Britton. (Annual Report, 1907, pt. 5, pp. 267-338, pls. 16.)

Notes are given in this report on the entomological features of 1907, nursery inspection, tests of various gases for fumigating nursery trees to destroy San José scale, spraying tests with commercial "soluble oils" to kill the San José scale, the peach sawfly, progress of the work of controlling the gipsy moth in Connecticut, the brown-tail moth, mosquito-breeding conditions at Niantic and Crescent Beach in 1907, the chemical composition of lead arsenate and Paris green and directions for their use as insecticides, the hickory tussock moth, the round-headed apple borer, and miscellaneous insect notes.

**ILLINOIS STATION**, Urbana, E. Davenport, Director.

Variety Tests of Wheat. By A. N. Hume, O. D. Center, and L. Hegnauer. (Bulletin 121, pp. 69-92, pls. 5.)

The purpose of this bulletin is to give data as a result of experiments at the station which will assist wheat growers of Illinois to select the highest yielding varieties for their own localities.

Market Classes and Grades of Horses and Mules. By R. C. Obrecht. (Bulletin 122, pp. 89-186, figs. 71.)

This bulletin gives the results of an investigation in the Chicago and St. Louis horse markets and, in addition to detailed information regarding the different market classes and types of horses, numerous cuts are presented which illustrate the different types of horses and mules found on sale in various markets.

**INDIANA STATION**, Lafayette, A. Goss, Director.

Commercial Melon Growing. By J. Troop and C. G. Woodbury. (Bulletin 123, pp. 23, figs. 17.)

The purpose of this bulletin is to discuss the melon growing industry of the State, to outline the present condition of the business as relates to varieties, insects, diseases, and methods of growing and marketing, to present a brief preliminary report of progress in experimental work, and to give the melon growers the benefit of such general information as has been collected.

Results of Cooperative Tests of Varieties of Corn, Wheat, Oats, Soy Beans, and Cowpeas, 1907. By A. T. Wiancko and C. O. Cromer. (Bulletin 124, pp. 25-60, fig. 1.)

In this bulletin is given a summary of the results of comparative tests of leading varieties of corn, winter wheat, oats, soy beans, and cowpeas conducted under the direction of the experiment station by interested farmers in various parts of the State during the past year.

IOWA STATION, Ames, C. F. Curtiss, Director.

Oats. By M. L. Bowman and L. C. Burnett. (Bulletin 96, pp. 23.)

This bulletin gives the results of variety and culture experiments with oats, together with notes on the treatment of oat seed for smut.

LOUISIANA STATIONS, Baton Rouge, W. R. Dodson, Director.

The Root Disease of Sugar Cane. By H. R. Fulton. (Bulletin 100, pp. 21, figs. 6.)

This bulletin describes the symptoms, cause, modes of distribution, occurrence in Louisiana, mode of attack, conditions favoring attack, and means of controlling the root disease of sugar cane. The fungus (*Marasmus plicatus*) which causes the disease is briefly described.

Diseases of Pepper and Beans. By H. R. Fulton. (Bulletin 101, pp. 21, figs. 15.)

The symptoms, causes, and preventive measures for the control of pepper blight and anthracnose, bacterial blight, fungus blight, and Rhizoctonia disease of beans are described in this bulletin, with brief directions for making and applying the most important fungicides.

Report of Dairy Herds and Their Milk Production at Hammond, La., and Vicinity. By T. E. Woodward and J. G. Lee, Jr. (Bulletin 102, pp. 28.)

This bulletin gives the results of cooperative tests made between the station and the Dairy Division of the Bureau of Animal Industry of this Department for the purpose of showing to dairymen in the State how improvement in the industry may be brought about by the proper handling and care of the cows and their products.

Twentieth Annual Report, 1907. (Annual Report, 1907, pp. 32.)

This summarizes the work of the station and substations during the year, reports analyses of fertilizers, feeding stuffs, and Paris green, gives notes on the work of the State Geological Survey, and presents a financial statement for the fiscal year ended June 30, 1907.

MARYLAND STATION, College Park, H. J. Patterson, Director.

Sweet Corn Investigations. By M. N. Straughn. (Bulletin 120, pp. 37-78.)

The work reported in this bulletin discusses (1) Methods of determining sugar in sweet corn; (2) the results of the analysis of different varieties of sweet corn; (3) a study of the composition of sweet corn for the purpose of establishing a method for breeding; (4) the breeding of sweet corn with results of work to date; (5) a study of the changes in corn from field to table; (6) observations on the proportion of husk, grain, and cob; (7) composition of corn grown in different latitudes; (8) the composition of sweet corn; (9) a study of the enzymes in green and dried corn; and (10) relation of variety to insect ravages.

MASSACHUSETTS STATION, Amherst, W. P. Brooks, Director.

Meteorological Observations. By J. E. Ostrander and T. A. Barry. (Meteorological Bulletin 230, pp. 4.)

This is a summary for February, 1908.

The Unprofitable Cow and How to Detect Her. (Circular 12, pp. 4, figs. 2.)

Notes on the sampling and testing of milk are given in this circular with a view of enabling any farmer to determine whether his cows are profitable or unprofitable.

Laws Regulating the Sale of Commercial Fertilizers in Massachusetts.

By J. B. Lindsey. (Circular 13, pp. 4.)

In addition to the texts of the State laws, this circular gives instructions to manufacturers, importers, agents, and sellers of commercial fertilizers or materials used for manurial purposes in Massachusetts.

MINNESOTA STATION, St. Anthony Park, St. Paul, E. W. Randall, Director.

Soil Investigations. By H. Snyder. (Bulletin 102, pp. 38, figs. 4.)

This bulletin discusses (1) Fertilizer tests with wheat and corn; (2) influence of fertilizers upon the composition and quality of wheat; and (3) a comparison of chemical methods and field tests for determining the fertilizer requirements of soils.

Dissemination of Tuberculosis by the Manure of Infected Cattle. By

M. H. Reynolds and W. L. Beebe. (Bulletin 103, pp. 39-62, figs. 8.)

The general purpose of this bulletin was "to secure information concerning the ways in which tuberculin reacting cows pass off tubercle bacilli aside from bronchial secretion by coughing and in milk."

MISSISSIPPI STATION, Agricultural College, W. L. Hutchinson, Director.

Report of Work at the Delta Station for 1906. By J. W. Fox. (Bulletin 106, pp. 7.)

This bulletin gives notes on the improvements in buildings and land drainage, the results of variety, fertilizer, and cultural tests with cotton, forage crops, and corn, and the cost and returns of pig raising at the branch station in 1906.

Pork Production at the Delta Station. By J. W. Fox. (Bulletin 107, pp. 7.)

This bulletin describes in detail the work in pig raising at the station during 1907. This includes cost of production, net returns, details of management, and the pasture rotation which furnished grazing every day in the year.

Report of Work at Holly Springs Branch Experiment Station, 1906.

By C. T. Ames. (Bulletin 108, pp. 16, figs. 10.)

In addition to describing the methods of terracing to prevent the land from washing in this section of Mississippi, this bulletin gives the results of fertilizer tests with cotton, corn, and cowpeas in 1906 on such reclaimed land.

NEBRASKA STATION, Lincoln, E. A. Burnett, Director.

Growing Cattle in Western Nebraska. By W. P. Snyder. (Bulletin 105, pp. 23, figs. 3.)

This bulletin, which is issued as Substation Bulletin 3, reports the results of experiments in cattle feeding in western Nebraska, discusses the effect of dehorning, and gives experiments in feeding alfalfa, prairie hay, and cane for wintering calves.

NEW JERSEY STATIONS, New Brunswick, E. B. Voorhees, Director.

Sandy Soils and Their Improvement in the Growing of Forage Crops.

By E. B. Voorhees and J. G. Lipman. (Bulletin 211, pp. 30.)

The data in this bulletin deal with results of experiments made on sandy soils in the growing of forage crops in the years 1904-1907, inclusive.

Twenty-eighth Annual Report, 1907. (Annual Report, 1907, pp. 560, pls. 91, figs. 2.)

This contains summarized accounts of the work and expenditures of the station by the director during the year and detailed reports by the department officers. Special topics discussed are as follows: Fertilizer and feeding stuffs inspection, feeding experiments with milch cows, forage crop experiments, experiments for the benefit of the peach industry, inoculation experiments with Azotobacter, bacteriological studies of Madison soils, observations on the fixation of oyster spat at Barnegat, N. J., 1907, experiments with vegetables and ornamental plants, grafting experiments, injurious insects prevalent during the year with methods of control, and report of the mosquito work in 1907.

NEW YORK STATE STATION, Geneva, W. H. Jordan, Director.

Director's Report for 1907. By W. H. Jordan. (Bulletin 295, pp. 379-402.)

This is a review of the administrative and investigational work of the station during the year, the results of the inspection of feeding stuffs, and a list of publications issued during 1907.

Saving Old Orchards from Scale. By F. M. Hall. (Popular edition of Bulletin 296, pp. 10.)

Notes are given in this bulletin on the work conducted by the station to protect old orchard apple trees from the ravages of San José scale in various orchards of the State in 1906 and 1907, including the cost of the work.

Investigations on Some Fruit Diseases. By H. J. Eustace. (Bulletin 297, pp. 29-48, pls. 7.)

This bulletin discusses apple rots in cold storage, peach rot in cold storage, sulphur fumigation to destroy apple rot fungi, apple injury by sulphur fumigation, and enlargement of apple scab spots under a covering of Bordeaux mixture.

Distribution of Station Strawberries and Raspberries. By U. P. Hedrick and O. M. Taylor. (Bulletin 298, pp. 49-58, pls. 4.)

This bulletin gives an account of the origin of four new varieties of red raspberries and three new varieties of strawberries grown at the station, and which it is proposed to distribute in the spring of 1908 for the purpose of stimulating interest in fruit growing and to promote local experimentation with varieties of fruit.

NEW YORK CORNELL STATION, Ithaca, L. H. Bailey, Director.

Bovine Tuberculosis. By V. A. Moore. (Bulletin 250, pp. 265-288, figs. 7.)

In addition to general historical notes on tuberculosis this bulletin discusses (1) its cause, (2) the method of infection, (3) the period of incubation, (4) the duration of the disease, (5) the way to detect or diagnose it, (6) the way to control it, (7) the status of the disease in the cattle in New York State, and (8) the necessity for experimental work in order to learn more about the disease.

NORTH DAKOTA STATION, Agricultural College, J. H. Worst, Director.

Weeds and Methods of Eradication. Weed Control by Means of Chemical Sprays. By H. L. Bolley. (Bulletin 80, pp. 511-574, pls. 25, figs. 5.)

This bulletin describes many native and introduced weeds, gives directions for knowing weeds, notes many of the causes underlying the dissemination of weeds, and fully describes the methods of holding weeds in control.

OHIO STATION, Wooster, C. E. Thorne, Director.

First Report on Forest Conditions in Ohio. By C. E. Thorne and W. J. Green. (Bulletin 188, pp. 34-51.)

The results of investigations on the forest conditions of Ohio, made by the

Ohio Agricultural Experiment Station during the years 1906 and 1907, are reported in this bulletin.

**Forestry Suggestions.** By W. J. Green and E. Secrest. (Bulletin 189, pp. 51-74, figs. 21.)

The proper care and management of farm woodlots for forestry purposes are described and illustrated in this bulletin.

**PENNSYLVANIA STATION,** State College, T. F. Hunt, Director.

**Test of a Mechanical Cow Milker.** By T. I. Mairs. (Bulletin 85, pp. 12, figs. 4.)

This bulletin gives the results of experiments made for the purpose of determining the time required for milking, completeness of milking, yield of milk, effect upon the udder, general health of cows, and the flavor of the milk when machines were used as compared with hand milking.

**SOUTH DAKOTA STATION,** Brookings, J. W. Wilson, Director.

**Annual Report, 1907.** (Annual Report, 1907, pp. 7-28.)

This contains brief reports by the director and the heads of departments reviewing the work of the station and Highmore substation during the year, together with a financial statement to June 30, 1907.

**TEXAS STATION,** College Station, H. H. Harrington, Director.

**Summary.** Texas Bulletins Nos. 1 to 94, Inclusive. By J. W. Carson. (Bulletin 98, pp. 97.)

"The publication of this summary of bulletins is for the purpose of putting in a form convenient for reference the problems studied and the results obtained by the experiment station of the Agricultural and Mechanical College of Texas since its establishment in 1888."

**The Composition and Properties of Some Texas Soils.** (Bulletin 99, pp. 50, figs. 20.)

In this bulletin the results of chemical analyses and pot experiments with typical samples of Texas soils collected from Anderson, Houston, Travis, Bexar, Hays, and Lamar counties are reported.

**The Chemical Composition of Some Texas Soils.** By G. S. Fraps. (Bulletin 100, pp. 8.)

This bulletin gives a popular account of a study of a number of Texas soils representing large areas made and published by the Bureau of Soils of this Department.

**Irish Potato Fertilizer Experiments.** By W. S. Hotchkiss and E. J. Kyle. (Bulletin 101, pp. 11.)

This bulletin summarizes the work with potatoes from 1903 to 1907, inclusive, with the exception of 1905, when, on account of unusually wet weather, all the potatoes rotted in the ground.

**VERMONT STATION,** Burlington, J. L. Hills, Director.

**Forest Planting in Vermont.** By L. R. Jones and C. R. Pettis. (Bulletin 132, pp. 11-24, figs. 5.)

The aim of this bulletin is to answer briefly the following specific questions: (1) What is the present outlook as to forest planting? (2) What are the best kinds of trees to plant? (3) What can be secured from or through the State nursery in the spring of 1908? (4) How is forest planting best done? (5) How can forest seedlings be grown at home? and (6) What are the State laws relative to tax exemption and other forestry matters?

Commercial Feeding Stuffs. By J. L. Hills, C. H. Jones, and C. Cutler. (Bulletin 133, pp. 25-32.)

The results of the inspection work in the winter of 1907-8 are reported in this bulletin, which include tests of 185 samples of commercial feeding stuffs for protein content only.

WASHINGTON STATION, Pullman, R. W. Thatcher, Director.

Wheat and Flour Investigations. By R. W. Thatcher. (Bulletin 84, pp. 48, figs. 3.)

This bulletin discusses the factors influencing the milling quality of wheat, description of samples collected, composition of wheats, milling tests, gluten in the flour, and sponge and baking tests of the flour.

WEST VIRGINIA STATION, Morgantown, J. H. Stewart, Director.

The Grapevine Root-Borer. By F. E. Brooks. (Bulletin 110, pp. 17-30, pls. 5.)

The life history of the grape root-borer (*Memythrus polistiformis*) is fully described in this bulletin, together with notes on its natural enemies and artificial methods of control.

Bacteria in Milk and Artificial Refrigeration for Dairymen. By J. H. Stewart and H. Atwood. (Bulletin 111, pp. 31-53, pl. 1, figs. 23.)

This bulletin discusses how the changes which usually take place in milk by means of bacteria may be avoided, with descriptions and illustrations of various types of machinery used for the artificial refrigeration of milk for dairy purposes.

WISCONSIN STATION, Madison, H. L. Russell, Director.

Licensed Commercial Feeding Stuffs, 1907. By F. W. Woll and G. A. Olson. (Bulletin 157, pp. 54.)

This bulletin gives a list of manufacturers or dealers doing business in the State with the guaranties of protein and fat content for 96 brands of concentrated feeding stuffs offered for sale, and the results of analyses of samples collected in the course of inspection in 1907 are reported. The text of the feeding-stuff law is included.





United States Department of Agriculture,  
OFFICE OF EXPERIMENT STATIONS,  
A. C. TRUE, Director.

**LIST OF STATION PUBLICATIONS RECEIVED BY THE OFFICE OF  
EXPERIMENT STATIONS DURING APRIL, 1908.**

NOTE.—These publications are not distributed by the Department of Agriculture, but can usually be obtained, as far as the supply will permit, by applying to the stations issuing them.

**ALABAMA CANEBRAKE STATION**, Uniontown, F. D. Stevens, Director.

Experiments with Cotton and Corn in 1906. By J. F. Duggar and J. M. Richeson. (Bulletin 24, pp. 21.)

The results of variety, culture, and fertilizer tests with cotton and corn grown at the station in 1906 are reported in this bulletin.

Experiments with Cotton and Oats in 1907. By F. D. Stevens. (Bulletin 25, pp. 16.)

The results of culture, fertilizer, and variety tests with cotton and oats conducted at the station in 1907 are reported in this bulletin.

**ALABAMA COLLEGE STATION**, Auburn, J. F. Duggar, Director.

Corn Breeding in Alabama. By E. M. Wilcox. (Bulletin 142, pp. 24, pls. 7.)

In this bulletin a summary is given of the most important practical results secured in breeding experiments with corn conducted at the station during the years 1905–1907, inclusive.

**ALABAMA TUSKEGEE STATION**, Tuskegee Institute, G. W. Carver, Director.

The Relation of Weather and Soil Conditions to the Fruit Industry of Southeastern Alabama. By F. H. Cardoza. (Bulletin 11, pp. 14, figs. 4.)

Notes are given in this bulletin on the weather and soil conditions of the State, the purpose being to stimulate interest among farmers on the value of observing weather conditions in fruit culture, the means of improving the worn soils of the State, and the value of orchard planting in protecting lands from washing.

**ARKANSAS STATION**, Fayetteville, W. G. Vincenheller, Director.

Meteorological Summary, 1891–1907. By J. H. Norton. (Bulletin 100, pp. 175–184, charts 2.)

The purpose of this bulletin is to give a detailed report of meteorological observations from 1891 to 1907, inclusive, and to present the conditions under which the experiments at the station are conducted.

**COLORADO STATION**, Fort Collins, L. G. Carpenter, Director.

The Plains. By J. E. Payne et al. (Bulletin 123, pp. 32.)

This bulletin is made up of a number of press bulletins relating to the plains for the purpose of giving advice to settlers. The following topics are discussed:

Advice to plains settlers, crops for unirrigated lands, dairy work for plains settlers, preparation of seed bed, summer culture to conserve moisture, acclimated seeds, potatoes on the plains, windbreaks and shelter belts for the plains, grasshoppers upon the plains, raising hogs on the plains, types of milling wheat for the plains, and rainfall on the plains.

**Climate of Colorado.** By L. G. Carpenter and R. E. Trimble. (Bulletin 127, pp. 12, dgms. 12.)

Temperature records for twenty-one years at Fort Collins are reported in this bulletin.

**DELAWARE STATION,** Newark, H. Hayward, Director.

**Annual Report of the Director.** (Bulletin 80, pp. 15.)

This contains a summary account of the work, finances, and needs of the station for the year ended June 30, 1907.

**Report of the Agronomist for the Season of 1907.** (Bulletin 81, pp. 20, figs. 4.)

The work of the department of agronomy in culture and variety tests with corn, cowpeas, soy beans, and miscellaneous forage plants is reported in this bulletin, together with an account of top-dressing meadows with commercial fertilizers.

**IOWA STATION,** Ames, C. F. Curtiss, Director.

**The Maintenance of Fertility with Special Reference to the Missouri Loess.** By W. H. Stevenson, A. H. Snyder, and I. O. Schaub. (Bulletin 95, pp. 32, figs. 4, dgms. 3, map 1.)

The results of experiments conducted on several fields in different parts of the State to determine the best means of maintaining soil fertility are reported in this bulletin.

**KANSAS STATION,** Manhattan, C. W. Burkett, Director.

**Alfalfa Breeding: Materials and Methods.** By H. F. Roberts and G. F. Freeman. (Bulletin 151, pp. 79-109, figs. 15.)

This bulletin discusses the range of variation in alfalfa plants, the possibility of breeding frost and drought-resistant strains, and gives the methods and results secured at the station in breeding experiments with alfalfa including the production of new races.

**The Pocket Gopher.** By T. H. Scheffer. (Bulletin 152, pp. 109-145, figs. 14.)

This bulletin contains a report on the habits, life history, and methods of combating the prairie pocket gopher (*Geomys bursarius*), based upon three years' study in the field of the Kansas species.

**Twentieth Annual Report, 1907.** (Annual Report, 1907, pp. 35.)

This contains the director's report reviewing the work of the station during the year, a financial statement, and brief reports by the heads of departments.

**LOUISIANA STATE STATION,** Baton Rouge, W. R. Dodson, Director.

**Investigations on the Use of Sulphur and Its Combinations in the Sugar House.** By F. Zerban. (Bulletin 103, pp. 80, dgms. 3.)

The investigations reported in this bulletin were undertaken for the purpose of finding out how much sulphur dioxide is left in the final products resulting from the clarification of sugar, and also to study the use of other clarifying agents from a similar standpoint, with a view to keeping the purity of sugar products within the limits determined by the Federal pure-food law officials.

**MAINE STATION, Orono, C. D. Woods, Director.**

**Food and Drug Inspection.** By C. D. Woods and J. M. Bartlett. (Bulletin 151, pp. 48.)

This bulletin contains reports upon the food inspection in the State as conducted during the last six months of 1907 and the results of analyses of samples collected, together with a discussion of the results.

**Seed Inspection.** By C. D. Woods and R. L. Hammond. (Bulletin 152, pp. 49-84.)

This bulletin discusses the chief requirements of the seed-inspection law of the State, gives a list of weed seeds found in seeds examined in 1907, and reports detailed analyses of seeds found on sale during the year.

**Fertilizer Inspection.** By C. D. Woods and J. M. Bartlett. (Bulletin 153, pp. 85-108.)

This bulletin gives the results of fertilizer inspection in the State, including analyses of the manufacturers' samples of licensed brands found on sale to February 10, 1908.

**MARYLAND STATION, College Park, H. J. Patterson, Director.**

**Strawberries.** By C. P. Close, W. R. Ballard, and T. H. White. (Bulletin 124, pp. 161-195.)

This bulletin contains descriptions of varieties of strawberries grown at the station for a number of years, with tabulated yields of the different varieties for the years 1905, 1906, and 1907.

**Nut Growing in Maryland.** By C. P. Close. (Bulletin 125, pp. 197-217, figs. 14.)

"The principal objects of this bulletin are to make a report on the nut survey made in the summer of 1907, to give directions for propagating and planting Persian walnuts and pecans, and especially for top grafting or budding black walnut trees and unfruitful or inferior Persian walnut trees to improved varieties of the Persian walnut, to describe desirable varieties of Persian walnuts and pecans, and to encourage the people of the State to plant nut trees on a commercial basis."

**MASSACHUSETTS STATION, Amherst, W. P. Brooks, Director.**

**Inspection of Commercial Feed Stuffs.** By P. H. Smith and L. S. Walker. (Bulletin 120, pp. 47.)

"This bulletin contains the analyses of commercial feed stuffs found in the Massachusetts market during the season of 1907, together with such comments as are called for by the results of the inspection. In addition will be found a discussion of home-grown versus purchased cattle feeds, complete rations for dairy stock, and a tabulated list of the wholesale cost of feeding stuffs for the year."

**Seed Separation and Germination.** By G. E. Stone. (Bulletin 121, pp. 14, figs. 4.)

"This bulletin gives a brief account of the methods used in and the advantages to be derived from the separation of seeds, together with some experimental data showing the results obtained from seed separation."

**Meteorological Observations.** By J. E. Ostrander and T. A. Barry. (Meteorological Bulletin 231, pp. 4.)

This is a summary for March, 1908.

**Fertilizers for Potatoes.** By W. P. Brooks. (Circular 14, pp. 4.)

Notes are given in this circular on the method of application and kind of fertilizers for potatoes, based on the results of experiments conducted at the station.

MINNESOTA STATION, St. Anthony Park, St. Paul, E. W. Randall, Director.

Pork Production. By D. A. Gaumnitz, A. D. Wilson, and L. B. Bassett. (Bulletin 104, pp. 61-119, figs. 21.)

This bulletin reports the results of two years' work at the station and by several farmers who have practiced this method of feeding, in comparing hogging off corn *v.* yard feeding. The field management of swine and field observations in hogging off corn are also discussed.

Investigations in Milk Production. The Relation of Nutriment to Product. By T. L. Haecker. (Bulletin 106, pp. 147-169, figs. 5.)

This bulletin contains the records of the Brown Swiss, Holstein Friesian, Jersey, and Shorthorn cows participating in the St. Louis dairy cow demonstration tests in 1904. The data include analyses of the feeding stuffs, the feed consumed by the different breeds, and the relation of nutriment to the dairy products yielded by the different cows.

Fifteenth Annual Report, 1907. (Annual Report, 1907, pp. XLII + 256, pl. 1, figs. 91.)

This contains a report by the director reviewing the work and finances of the station during the year, an article on a study of certain cathartics, and reprints of bulletins 97-101 of the station published during the year.

MISSOURI STATION, Columbia, H. J. Waters, Director.

Inspection of Commercial Fertilizers. By H. J. Waters. (Bulletin 77, pp. 14.)

This bulletin contains the report of analyses of commercial fertilizers collected during the fall of 1906, and a statement of the receipts and disbursements of the fertilizer control fund for the year ending December 31, 1906.

Inspection of Commercial Fertilizers. By P. F. Trowbridge. (Bulletin 78, pp. 14.)

Data similar to the above are presented in this bulletin for the year 1907.

Green Forage for Hogs. By H. J. Waters. (Bulletin 79, pp. 12, figs. 6.)

In this bulletin a comparison is made of the value for hogs of the following feeds: Corn and ship stuff, corn and alfalfa, corn and clover, corn and rape, corn and bluegrass, and corn and skim milk.

NEW HAMPSHIRE STATION, Durham, E. D. Sanderson, Director.

The Respiration of Apples and Its Relation to Their Keeping. By F. W. Morse. (Bulletin 135, pp. 87-92, fig. 1.)

The results of tests conducted at the station are reported in this bulletin.

The Gipsy and Brown Tail Moths in New Hampshire. By E. D. Sanderson. (Bulletin 136, pp. 93-156, figs. 34.)

Historical and biological notes on these two insect pests and of their present status in the State are presented in this bulletin.

NEW YORK STATE STATION, Geneva, W. H. Jordan, Director.

Chloroform as an Aid in the Study of Milk Enzymes. By H. A. Hard-  
ing and L. L. Van Slyke. (Technical Bulletin 6, pp. 39-82.)

This bulletin gives a record of the attempts made at the station to determine the action of chloroform when used in the study of the milk enzymes which are believed to play an important part in the process of cheese ripening.

Some Fruit-Rot Notes. By F. H. Hall. (Popular edition of Bulletin 297, pp. 7, fig. 1.)

This is a popular summary of Bulletin 297 which discusses apple rots in cold storage, peach rot in cold storage, sulphur fumigation to destroy apple-rot fungi, apple injury by sulphur fumigation, and enlargement of apple scab spots under a covering of Bordeaux mixture.

Alfalfa Aided by Soil Inoculation. By F. H. Hall. (Popular edition of Bulletin 300, pp. 10.)

Notes are given in this bulletin on the importance of nitrogen as a plant food, on the value of inoculation in the production of nitrogen-fixing bacteria, and on the results of the station cooperative inoculation tests with alfalfa.

Protecting Cabbage-Plant Beds from Maggots. By F. H. Hall. (Popular edition of Bulletin 301, pp. 4.)

In this bulletin notes are given on the insect pests of cabbage seedlings and the results of a new method of protecting cabbage-plant beds conducted by the station in cooperation with a prominent cabbage grower in the State are reported.

NORTH CAROLINA COLLEGE STATION, West Raleigh, C. B. Williamis, Director.

Thirtieth Annual Report, 1907. (Annual Report, 1907, pp. 129, figs. 68.)

This contains a brief report by the director reviewing the work of the station during the year, reports by the heads of departments, a financial statement to June 30, 1907, and the following papers: The spraying of Irish potatoes, a bacterial disease of lettuce, sclerotia on carrots, the chrysanthemum ray blight, the efficiency of pure culture inoculation for legumes, and notes on plant diseases occurring in North Carolina. Reprints of press bulletins 14 and 15 and regular bulletins 195 and 196 are included.

NORTH DAKOTA STATION, Agricultural College, J. H. Worst, Director.

The Distribution of Pedigree Seed. By J. H. Shepperd and O. O. Churchill. (Bulletin 79, pp. 477-510, pls. 10.)

This bulletin contains a list of the quantity of seeds and the names of the persons to whom sent since 1896, with a discussion of the purpose of the station's seed distribution and a description of a few of the improved strains of seed distributed.

OHIO STATION, Wooster, C. E. Thorne, Director.

Evergreens: Their Uses and Culture. By W. J. Green and W. E. Bontrager. (Bulletin 190, pp. 75-102, figs. 18.)

In this bulletin a large number of evergreen trees and shrubs adapted for windbreaks, shelter, and ornamental purposes are illustrated and described, with directions for their planting, culture, and care.

Seed Corn for the Season of 1908. By C. G. Williams. (Circular 74, pp. 4.)

Notes are given in this circular on the importance of planting corn adapted to the locality in which it is to be grown, on methods of conducting germination tests, and on other points in the spring selection of seed corn.

(NOTE.—The circular on "Cooperative Forestry Work for 1908," listed in the November, 1907, issue of this list as Circular 74, has been relisted by the station as Circular 75.)

Cooperative Corn Work for 1908. By C. G. Williams and L. H. Goddard. (Circular 76, pp. 4.)

Notes are given in this circular relating to the lines of cooperative corn work planned by the station for the season of 1908.

The Soy Bean. By C. G. Williams. (Circular 78, pp. 8.)

Notes are given in this circular on the uses, varieties, culture, and harvesting of soy beans.

Cooperative Alfalfa Work for 1908. By C. G. Williams and L. H. Goddard. (Circular 80, pp. 4.)

Notes on the lines of cooperative alfalfa work planned by the station for 1908 are given in this circular.

OKLAHOMA STATION, Stillwater, W. L. English, Director.

Orchard Spraying. By O. M. Morris and J. F. Nicholson. (Bulletin 76, pp. 32, figs. 22.)

In this bulletin an account is given of a spraying experiment on a large scale for the purpose of determining the cost of spraying, the benefits that may be derived from the work, and the practicability of the work from a financial standpoint. Notes are also given on the codling moth, plum curculio, canker-worms, bitter rot, apple scab, apple rust, apple blotch, and fly-speck disease.

Cotton Culture. By L. A. Moorhouse and J. F. Nicholson. (Bulletin 77, pp. 35-56.)

The results of cultural and variety tests with cotton are reported in this bulletin, together with biological and remedial notes on the cotton bollworm.

Sheep Feeding. By W. T. McDonald and J. S. Malone. (Bulletin 78, pp. 57-64.)

This bulletin points out the natural advantages of Oklahoma for the production of sheep, the value of sheep as weed destroyers, and gives the results of feeding experiments with sheep conducted at the station for the purpose of testing the merits of different rations.

The Spring Grain Aphis. By W. L. English. (Circular 8, pp. 7, figs. 4.)

Notes are given in this circular on the habits, distinctive features, natural enemies, and means of controlling the spring grain aphis (*Toxoptera gramineum*), or "green bug," which seriously attacked the wheat and oat crops in the State during the winter and spring of 1906-7.

Hessian Fly. By W. L. English. (Circular 9, pp. 4.)

This circular gives information on the life history, natural enemies, and means of controlling the Hessian fly, which was quite destructive to the wheat crop in Oklahoma in the fall of 1907.

Corn Growing in Oklahoma. By L. A. Moorhouse. (Circular 10, pp. 7.)

Notes are given in this circular on the culture of corn, with a view of calling the attention of the farmers of Oklahoma to the possibility of improving the methods of culture and increasing the yields and quality of the corn crop throughout the State.

PENNSYLVANIA STATION, State College, T. F. Hunt, Director.

Miscible Oils: How to Make Them. By C. L. Penny. (Bulletin 86, pp. 20, fig. 1.)

Directions for making various miscible oils for insecticide purposes, based upon experiments conducted at the station, are given in this bulletin.

PORTE RICO STATION, Mayaguez, D. W. May, Special Agent in Charge.

Control of the Brown Ant and the Mealy Bug in Pineapple Plantations. By W. V. Tower. (Circular 7, pp. 3.)

Notes are given in this circular on the habits and means of controlling the brown ant (*Solenopsis geminata*) and the mealy bug (*Pseudococcus citri*) which are destructive to pineapples in Porto Rico.

SOUTH CAROLINA STATION, Clemson College, J. N. Harper, Director.

The Williamson Plan in 1907. By C. L. Newman. (Bulletin 135, pp. 21, figs. 9.)

The results of experiments conducted at the station in 1907 for the purpose of testing the value of the Williamson plan of corn culture compared with modifications of this plan and the ordinary method of culture but with similar preparation prescribed for the Williamson plan are reported in this bulletin.

SOUTH DAKOTA STATION, Brookings, J. W. Wilson, Director.

Annual Report, 1907. (Annual Report, 1907, pp. 10-28.)

This contains brief reports by the director and heads of departments reviewing the work and finances of the station during the year ended June 30, 1907.

WEST VIRGINIA STATION, Morgantown, J. H. Stewart, Director.

Experiments with Fertilizers. By J. H. Stewart and H. Atwood. (Bulletin 112, pp. 57-86, figs. 9.)

The results of eight years' experiments conducted at the station to determine the fertilizer requirements of soils are reported in this bulletin.

Complete Report on Commercial Fertilizers for 1907. By J. H. Stewart and B. H. Hite. (Bulletin 114, pp. 135-197.)

This bulletin contains a complete report of the work required by the fertilizer law of the State for the year ended December 31, 1907, including analyses of the samples taken in the course of fertilizer inspection.

WISCONSIN STATION, Madison, H. L. Russell, Director.

Twenty-fourth Annual Report, 1907. (Annual Report, 1907, pp. 430, figs. 77.)

This contains a report by the director reviewing the work of the station during the year, lists of exchanges and acknowledgments, a financial statement to June 30, 1907, and the following special articles: Observations on sheep breeding from records of the university flock, the portable hog house, report of the department of horse breeding, the university dairy herd 1906-7, tests of dairy cows 1906-7, the records of production made by Colantha 4th's Johanna (H. F. H. B., 48577) 1906-7, feeding stuff inspection in Wisconsin 1907, inspection of commercial fertilizers 1907, condimental stock foods, variations in the amount of casein in cows' milk, a simple mechanical method for the estimation of casein in cows' milk, influence of metals on the action of rennet, miscellaneous chemical analyses, the chemistry of milk curdling, the coagulation of fresh and alkaline milks, an automatic cheese press, bacterial content of machine-drawn and hand-drawn milk, tuberculosis tests for 1906-7, distribution of cell elements in milk and their relation to sanitary standards, nitrogen content of soils as affected by methods of farming, studies on the improvement of sand, marsh, and heavy clay soils, drainage conditions in Wisconsin, the required capacity of open-drainage ditches, some field studies in tile drainage, cranberry investigations, report on the study of insects injurious to cranberries during the summer of 1907, fertilizer experiments with sugar beets during 1906 and 1907, observations upon the prevalence of early potato blight (*Alternaria solani*) in Wisconsin, potato spraying experiments for 1907, influence of "bottom heat" in forcing cucumbers, tobacco investigations for 1907, State nursery inspection, the relation of orchard cover crops to soil moisture and soil freezing, experiments with grain and forage plants, 1907, tests with grains and forage plants at the northern substation farms, barley smut investigations, eradication of farm weeds, and brewing barleys.



Issued June 8, 1908.

# United States Department of Agriculture, OFFICE OF EXPERIMENT STATIONS,

A. C. TRUE, Director.

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## LIST OF STATION PUBLICATIONS RECEIVED BY THE OFFICE OF EXPERIMENT STATIONS DURING MAY, 1908.

NOTE.—These publications are not distributed by the Department of Agriculture, but can usually be obtained, as far as the supply will permit, by applying to the stations issuing them.

ALABAMA TUSKEGEE STATION, Tuskegee Institute, G. W. Carver,  
Director.

How to Make Cotton Growing Pay. By G. W. Carver. (Bulletin 14, pp. 14, figs. 2.)

The results of tests in the culture of cotton conducted at the Tuskegee Agricultural Experiment Station in 1906 and 1907 are reported in this bulletin.

ARIZONA STATION, Tucson, R. H. Forbes, Director.

Eighteenth Annual Report, 1907. (Annual Report, 1907, pp. 203-244, figs. 2, dgm. 1.)

This contains a summary account by the director of the work of the station during the year, including a financial statement to June 30, 1907, and reports by the heads of the various departments.

CALIFORNIA STATION, Berkeley, E. J. Wickson, Director.

Commercial Fertilizers. By J. S. Burd. (Bulletin 194, pp. 159-183.)

This bulletin gives the results of the inspection of fertilizers in California from July 1 to December 30, 1907, including analyses of 241 samples.

California State Farmers' Institute at the University Farm, Davisville, Tuesday, Wednesday, and Thursday, October 29, 30, and 31, 1907.  
By W. T. Clarke. (Circular 34, pp. 3.)

This is the program of the California State Farmers' Institute.

Analyses of Fertilizers for Consumers. By J. S. Burd. (Circular 36, pp. 3.)

Information is given in this circular regarding the sampling of fertilizers by consumers for submission to the station for the purpose of analysis and certification.

CONNECTICUT STATE STATION, New Haven, E. H. Jenkins, Director.

Report of the Station Botanist, 1907. By G. P. Clinton. (Annual Report, 1907, pt. 6, pp. 339-396, pls. 16.)

This report gives notes on the fungus diseases prevalent in the State in 1907, discusses the root rot of tobacco, as additional information secured in investigations conducted in continuation of the work reported in the Report for 1906, and describes the heteroecious rusts of Connecticut having a peridermum for their aecidial stage.

Report of the Agronomist, 1907. By E. M. East. (Annual Report, 1907, pt. 7, pp. 397-452, pls. 9.)

The following topics are discussed in this report: (1) The prospects of better seed corn in Connecticut; (2) practical use of mendelism in corn breeding; (3) inbreeding in corn; (4) some essential points in potato breeding; and (5) extension work in agronomy.

DELAWARE STATION, Newark, H. Hayward, Director.

Home-made Miscible Oils. By C. L. Penny. Orchard Tests of Miscible Oils. By C. O. Houghton. (Bulletin 79, pp. 40, figs. 2.)

In this bulletin formulas for a large number of miscible oils, with and without other insecticides and fungicides, are presented and discussed, and the results of tests made in 1907 in the use of some of these sprays for the control of San José scale are reported.

FLORIDA STATION, Gainesville, P. H. Rolfs, Director.

Sorghum for Silage and Forage. By J. M. Scott. (Bulletin 92, pp. 35-42, pl. 1.)

The results of culture, fertilizer, and variety tests with sorghum grown at the station in 1907 are reported in this bulletin.

GEORGIA STATION, Experiment, M. V. Calvin, Director.

The Fig in Georgia. By H. N. Starnes and J. F. Monroe. (Bulletin 77, pp. 39-101, figs 75.)

This bulletin gives in part 1 the nomenclature and synonymy of the figs grown at the station, including descriptions of all the varieties tested and in many instances illustrations of the foliage and fruit. Part 2 discusses the culture of Smyrna figs. The data in this bulletin are supplementary to those printed in Bulletin 61 of the station.

ILLINOIS STATION, Urbana, E. Davenport, Director.

The Fertility in Illinois Soils. By C. G. Hopkins and J. H. Pettit. (Bulletin 123, pp. 187-294, figs. 8, map 1.)

"The purpose of the six years' work represented in this bulletin is to furnish definite facts and necessary information to Illinois landowners and farmers that will enable them to plan and adopt systems of farming under which the soils of Illinois will be certain to continue, or improve, in productive power instead of decreasing in fertility as they are doing under the most common practices."

Phosphorus and Humus in Relation to Illinois Soils. By C. G. Hopkins. (Circular 116, pp. 27.)

This circular contains notes on the best methods of maintaining soil fertility on Illinois farms in both grain and live-stock farming, together with notes on different kinds of phosphatic and other fertilizers.

Dry Rot of Corn. By T. J. Burrill and J. T. Barrett. (Circular 117, pp. 3.)

Descriptive and economic notes are given in this circular on the dry rot or Diplodia disease of corn, which was quite prevalent in Illinois during the years 1906 and 1907.

INDIANA STATION, Lafayette, A. Goss, Director.

Commercial Fertilizers. By W. A. Jones, jr., et al. (Bulletin 125, pp. 61-139, map 1.)

This bulletin gives the text of the Indiana fertilizer law as amended in 1901, and gives the results of inspection in 1907, including analyses of 793 samples.

**LOUISIANA STATE STATION**, Baton Rouge, W. R. Dodson, Director.  
**Feeding "Blackstrap" Molasses to Young Calves.** By T. E. Woodward and J. G. Lee, jr. (Bulletin 104, pp. 40.)

The primary object of the experiment reported in this bulletin was to determine whether or not low grade sugar-cane molasses (blackstrap) could be used as a supplement to skim milk, or, in other words, take the place of the fat that had been removed from the whole milk for calf-feeding purposes.

**Diseases Affecting Rice in Louisiana.** By H. R. Fulton. (Bulletin 105, pp. 28, pls. 8.)

The purpose of this bulletin is to give some account of the nature of blast, brown grain spot, green smut, and black smut of rice, and to indicate the progress made in the study of these diseases.

**MAINE STATION**, Orono, C. D. Woods, Director.

**Paris Green and Bordeaux Mixture.** By C. D. Woods and H. H. Hanson. (Bulletin 154, pp. 109-124, dgm. 1.)

This bulletin gives analyses of a large number of samples of Paris green, discusses the adulteration and ordinary impurities of this insecticide, and gives directions for its use. The constitution of Bordeaux mixture is also discussed, and the results of tests to determine the effectiveness of prepared Bordeaux mixtures, wet and dry, compared with freshly prepared are reported.

**Orchard Notes, 1907.** By W. M. Munson. (Bulletin 155, pp. 125-156, dgms. 4.)

The records of the season's work in orchard cultivation and renovation are reported in this bulletin, together with a general summary of the investigations for the ten years. An article on "The Maine Station and Pomology," by C. D. Woods, is included.

**MASSACHUSETTS STATION**, Amherst, W. P. Brooks, Director.

**Meteorological Observations.** By J. E. Ostrander and T. A. Barry. (Meteorological Bulletin 232, pp. 4.)

This is a summary for April, 1908.

**MINNESOTA STATION**, St. Anthony Park, St. Paul, E. W. Randall, Director.

**Corn Breeding in Minnesota.** By C. P. Bull. (Bulletin 107, pp. 169-256, figs. 45, charts 10.)

This bulletin contains the experience and results of several years' work in corn breeding at the station and in cooperation with farmers throughout the State. The data are presented in the hope that the work may prove valuable in offering suggestions and a method by which corn can be improved in Minnesota in yield and quality.

**The So-called "Green-Bug" and Other Grain Aphids in Minnesota in 1907.** By F. L. Washburn. (Bulletin 108, pp. 257-280, pl. 1, figs. 15.)

Descriptive and biological notes on a number of grain aphids found in Minnesota in 1907, with descriptions of the natural enemies of the green bug and other grain aphids.

**MISSISSIPPI STATION**, Agricultural College, W. L. Hutchinson, Director.

**Inspection and Analyses of Commercial Fertilizers on Sale in the State.** (Bulletin 105, pp. 64.)

Analyses and valuation of 506 samples of fertilizers collected in the course of inspection in 1906-7 are reported in this bulletin.

NEBRASKA STATION, Lincoln, E. A. Burnett, Director.

Does it Pay to Spray Nebraska Apple Orchards? By R. A. Emerson and F. E. Denny. (Bulletin 106, pp. 20.)

This bulletin gives the results of experiments conducted in 1907 for the control of apple scab and codling moth, the tests being made in two orchards in Washington County. The data include the costs and returns of the spraying experiments.

NEW HAMPSHIRE STATION, Durham, E. D. Sanderson, Director.

The Inspection of Feeding Stuffs in 1907. By F. W. Morse. (Bulletin 133, pp. 69-76.)

This bulletin contains an abstract of the State feeding-stuff law and gives analyses of the feeding stuffs, including cattle and poultry feeds, collected in the course of inspection in 1907 in cooperation with the State board of agriculture.

Fertilizer Analyses. By F. W. Morse and B. E. Curry. (Bulletin 134, pp. 77-84.)

This bulletin gives the results of the inspection of commercial fertilizers made in the State in 1907 in cooperation with the State board of agriculture, including analyses of 106 samples of fertilizers.

NEW JERSEY STATIONS, New Brunswick, E. B. Voorhees, Director.

Concentrated Feeding Stuffs. By C. S. Cathcart et al. (Bulletin 212, pp. 57.)

"This bulletin presents the work of the station in its eighth annual inspection of the concentrated feeding stuffs sold in the State," and reports analyses of 326 samples requiring a guaranty collected during the year.

NEW YORK CORNELL STATION, Ithaca, L. H. Bailey, Director.

Plant-Breeding for Farmers. By H. J. Webber. (Bulletin 251, pp. 291-332, figs. 9.)

The object of this bulletin is to discuss those methods of plant breeding that are simple and suitable for the general use of farmers, and, in addition to giving some of the factors in plant breeding, discusses the improvement of corn, wheat, barley, oats, and potatoes.

Insect Pests and Plant Diseases. By J. Craig. (Bulletin 252, pp. 335-364, figs. 29.)

In this bulletin notes are given on the more common insects and diseases affecting fruits, vegetables, and field crops, with directions for the preparation and use of insecticides and fungicides for their control.

NEW YORK STATE STATION, Geneva, W. H. Jordan, Director.

The Relation of Weather to the Setting of Fruit; with Blooming Data for 866 Varieties of Fruit. By U. P. Hedrick. (Bulletin 299, pp. 59-138.)

A detailed summary of investigations is reported.

Inoculation as a Factor in Growing Alfalfa. By H. A. Harding and J. K. Wilson. (Bulletin 300, pp. 137-164, figs. 2, map 1.)

This bulletin records the need of inoculation and means for supplying this need in the culture of alfalfa as determined in 67 fields distributed among 33 counties of the State.

Screening for the Protection of Cabbage Seed Beds. By W. J. Schoene. (Bulletin 301, pp. 165-174, pl. 1.)

"This bulletin deals with experiments to test the value of cheesecloth screening for the protection of cabbage seed beds against injuries by root maggots."

OHIO STATION, Wooster, C. E. Thorne, Director.

Spraying for Codling Worm. By H. A. Gossard. (Bulletin 191, pp. 101-126, pl. 1, figs. 23.)

This bulletin contains the results of tests made in 1907 to determine whether the drenching sprays so much used in the Western States could be profitably used for the control of the codling moth in the East where arsenical sprays are used in combination with Bordeaux mixture. "Less important questions tested were the economic value of soap and other materials added to the spray as stickers, the number of applications that should be made with dates for making them, and which of the arsenicals to use."

Fall and Early Winter Injuries to Orchard Trees and Shrubbery by Freezing. By A. D. Selby. (Bulletin 192, pp. 127-148, figs. 9.)

This bulletin calls attention to the serious injury to orchard trees and ornamental shrubs by freezing in the fall and early winter of 1906-7, and discusses among other topics the kinds of trees injured, the conditions, cause, and extent of the injury, why some varieties of apples suffered worse than others, and the injuries compared with those of midwinter in other years and in relation to orchard practice.

How to Determine the Fertilizer Requirements of Ohio Soils. By C. E. Thorne. (Circular 79, pp. 23, fig. 1.)

In this circular are discussed: (1) Chemical analysis not a sufficient guide to the fertilizing of the soil, and (2) some general principles in soil fertilization. Notes are also given on the practical application of the conclusions reached and on fertilizing materials.

RHODE ISLAND STATION, Kingston, H. J. Wheeler, Director.

Annual Report, 1907. (Annual Report, 1907, pp. 189-407+X, pls. 22, dgm. 1.)

This contains a report by the director reviewing the work of the station during the year, reports by the heads of departments giving the results of experimental work, a report by the treasurer, a list of exchanges, and the following special articles: The effect of the addition of sodium to deficient amounts of potassium upon the growth of plants in both water and sand cultures; the relation between the effects of liming and of nutrient solutions containing different amounts of acid upon the growth of certain cereals.

VERMONT STATION, Burlington, J. L. Hills, Director.

Commercial Fertilizers. By J. L. Hills and C. H. Jones. (Bulletin 134, pp. 35-55.)

This bulletin discusses the trade values of fertilizers, gives a list of those firms licensed to sell fertilizers in the State, gives analyses of fertilizing materials representing 60 brands, and reports a comparative table of analyses for the five years 1903-1907.

WASHINGTON STATION, Pullman, R. W. Thatcher, Director.

The Codling Moth in 1907. By A. L. Melander and R. E. Trumble. (Bulletin 86, pp. 17, figs. 5.)

This bulletin gives the results of tests in 1907 with dust sprays and of the newer brands of arsenate of lead for the control of the codling moth.

WEST VIRGINIA STATION, Morgantown, J. H. Stewart, Director.

Notes on the Habits of Mice, Moles, and Shrews. By F. E. Brooks.  
(Bulletin 113, pp. 87-133, pls. 10, figs. 2, dgm. 1.)

Notes are given in this bulletin on the distribution, abundance, food habits, and economic importance of mice, moles, and shrews in West Virginia, the information being presented with the hope of stimulating interest in a subject of great economic importance to the farmers of the State.

Poultry Experiments. By J. H. Stewart and H. Atwood. (Bulletin 115, pp. 199-210, pls. 7.)

In this bulletin are given the detailed records of the care, management, costs, and returns of 600 laying hens during the year 1907, including a description of the laying house.

Starting Young Orchards. By W. M. Munson. (Bulletin 116, pp. 211-248, pls. 7.)

"This bulletin contains notes upon culture and mulching, crops and cover crops, pruning, spraying, insect and other enemies, and poultry in the orchard."

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Issued July 13, 1908.

United States Department of Agriculture,  
 OFFICE OF EXPERIMENT STATIONS,  
 A. C. TRUE, Director.

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**LIST OF STATION PUBLICATIONS RECEIVED BY THE OFFICE OF  
 EXPERIMENT STATIONS DURING JUNE, 1908.**

**NOTE.**—These publications are not distributed by the Department of Agriculture, but can usually be obtained, as far as the supply will permit, by applying to the stations issuing them.

**ALABAMA TUSKEGEE STATION,** Tuskegee Institute, G. W. Carver, Director.

Saving the Wild Plum Crop. By G. W. Carver. (Bulletin 12, pp. 8.)

This bulletin gives in a practical way a number of recipes for preserving the wild plum crop of the State.

**ALASKA STATIONS,** Sitka, C. C. Georgeson, Special Agent in Charge.

Annual Report of Alaska Agricultural Experiment Stations for 1907.  
 (Annual Report, 1907, pp. 98, pls. 7, figs. 3.)

This report summarizes the work with fruits, field crops, and live stock at the Sitka, Kenai, Copper Center, and Rampart stations in Alaska in 1907, and reports on the live-stock breeding station at Kodiak, work at the C. H. Frye ranch, dairy practice at Kenai Station, and on seed distribution. Tabulated data are included of the temperature and weather conditions in different parts of the Territory.

**CALIFORNIA STATION,** Berkeley, E. J. Wickson, Director.

Instruction in Practical Agriculture upon the University Farm at Davis, Cal. By L. Anderson. (Circular 37, pp. 12.)

This circular gives the announcement of farmers' short courses at the university farm schools for 1908, which includes courses in dairy manufacture for eight weeks; irrigation, soils, forage crops, and cereals for three weeks; poultry husbandry for eight days; animal industry and veterinary science for four weeks; and horticulture and viticulture for three weeks.

**COLORADO STATION,** Fort Collins, L. G. Carpenter, Director.

Alfalfa Studies. By P. K. Blinn. (Bulletin 128, pp. 7, pls. 5.)

This is a progress report on the alfalfa seed-breeding work which has been carried on at the station since 1905.

Extraction of Beeswax. By F. C. Alford. (Bulletin 129, pp. 14.)

The studies reported in this bulletin include the refining and bleaching of wax and the determination of an indicator to find out something definite regarding the character and wax content of "slumgum," a residue derived in the extraction of wax containing a large amount of foreign matter.

The Evergreen Trees of Colorado. By B. O. Longyear. (Bulletin 130, pp. 32, figs. 21.)

The purpose of this bulletin is to familiarize the people of Colorado with the native evergreen trees and thereby strengthen the interest in their protection. "Brief suggestions and directions are also given for their use in ornamenting the home grounds and in planting for windbreaks and screens."

CONNECTICUT STATE STATION, New Haven, E. H. Jenkins, Director.

Clover Seed in the Connecticut Market. By E. H. Jenkins and Mary H. Jagger. (Bulletin 160, pp. 14, figs. 3.)

This bulletin gives the results of the examination of 51 samples of clover seed sent in to or purchased by the station during the early part of 1908, describes some of the more common weed seeds most frequently found associated with clover seed, and gives instructions for sampling seeds.

CONNECTICUT STORRS STATION, Storrs, L. A. Clinton, Director.

Sources of Bacteria in Milk. By W. M. Esten and C. J. Mason. (Bulletin 51, pp. 65-109, figs. 8.)

This is a report of investigations made at the station regarding the many sources of contamination of milk for the purpose of devising means of eliminating the bacteria from the milk by practical methods. Suggestions are also made for the production of "sanitary" or clean milk.

FLORIDA STATION, Gainesville, P. H. Rolfs, Director.

Soil Studies, II. Acid Soils. By A. W. Blair and E. J. Macy. (Bulletin 93, pp. 45-69, figs. 2.)

The investigations reported in this bulletin were undertaken for the purpose of finding out to what extent Florida soils were acid, in the hope that light might be thrown upon some of the problems that now confront the agricultural and horticultural interests of the State.

GEORGIA STATION, Experiment, M. V. Calvin, Director.

Nineteenth Annual Report, 1906. (Annual Report, 1906, pp. 243-252.)

This contains a brief report by the director of the work of the station and a financial statement to June 30, 1906.

Twentieth Annual Report, 1907. (Annual Report, 1907, pp. 7.)

This contains a brief report by the director reviewing a few of the more important projects brought to a close during the year and a financial statement to June 30, 1907.

ILLINOIS STATION, Urbana, E. Davenport, Director.

Marketing the Muskmelon. By J. W. Lloyd. (Bulletin 124, pp. 295-322, figs. 16.)

The results of studies made by the station during a number of years in the marketing of muskmelons are reported. "After a brief consideration of the market demands in reference to types of melons and packages, the most approved method of handling the crop is given in detail, including picking, grading, packing, the construction of packing sheds, and the organization of the working force. This is followed by a discussion regarding various methods of selling the crop."

Thirty Years of Crop Rotations on the Common Prairie Soil of Illinois.

By C. G. Hopkins, J. E. Readhimer, and W. G. Eckhardt. (Bulletin 125, pp. 323-356, figs. 7.)

The purpose of this bulletin is to set before Illinois farmers the results of investigations conducted during thirty years on the effects of different systems of farming on the yields of corn in the State.

KENTUCKY STATION, Lexington, M. A. Scovell, Director.

Milk Supply of Kentucky—Louisville. By R. M. Allen. (Bulletin 134, pp. 75-323, pls. 20.)

This bulletin gives a detailed account of the work of the station in improving the sanitary conditions surrounding the production and marketing of milk

in Kentucky, with particular reference to the milk supply of Louisville. A compiled list of dairymen with statistics referring to the number of cows in herd and the production of milk is included.

**MAINE STATION, Orono, C. D. Woods, Director.**

**Feeding Stuff Inspection.** By C. D. Woods and J. M. Bartlett. (Bulletin 156, pp. 157-202.)

This bulletin gives the results of feeding stuff inspection in the State from April, 1907, to April, 1908, including analyses of about 450 samples collected by station officers, submitted by dealers and manufacturers, and sent in by consumers during the year.

**MASSACHUSETTS STATION, Amherst, W. P. Brooks, Director.**

**Poultry Keeping for Egg Production.** By W. P. Brooks. (Bulletin 122, pp. 64, figs. 9.)

"This bulletin is a brief guide to poultry keeping for eggs. It discusses houses for growing birds and for laying stock, the question of breed, incubation and brooding, and the general management and feeding both of chickens and laying stock. It summarizes the results of experiments on the following points: Use of condition powder, clover rowen *v.* cabbages, influence of the cock on egg production, vegetable *v.* animal feeds, cut fresh bone *v.* animal meal, morning *v.* evening mash, wide *v.* narrow rations or corn *v.* wheat, buckwheat *v.* corn, and effect of fiber in the ration."

**Fungicides, Insecticides, and Spraying Directions.** By G. E. Stone and H. T. Fernald. (Bulletin 123, pp. 32.)

"This bulletin gives formulas for the preparation of fungicides and insecticides, with directions for preventing and controlling fungus diseases and insects."

**Meteorological Observations.** By J. E. Ostrander and T. A. Barry. (Meteorological Bulletin 233, pp. 4.)

This is a summary for May, 1908.

**MICHIGAN STATION, East Lansing, R. S. Shaw, Director.**

**Thrips on Oats.** By R. H. Pettit. (Special Bulletin 38, p. 1.)

Notes on the nature and prevalence of this insect in the oat fields of Michigan in 1907 are reported.

**Report of South Haven Substation for 1906.** By L. R. Taft and F. A. Wilken. (Special Bulletin 40, pp. 37.)

This bulletin contains a report of the work with small and orchard fruits, grapes, and nuts in 1906.

**Report of the Upper Peninsula Substation for the Years 1905 and 1906.** By L. M. Geismar. (Special Bulletin 41, pp. 59.)

This bulletin reports the weather conditions and meteorological observations, and gives a detailed account of the cultural work with cereals, field peas, corn, miscellaneous field and forage crops, potatoes and root crops, sugar beets, vegetables, ornamental plants, and small orchard fruits in 1905 and 1906.

**Twentieth Annual Report, 1907.** (Annual Report, 1907, pp. 95-392, figs. 59.)

This contains a financial statement to June 30, 1907, a report by the director reviewing the work of the station during the year, reports by the heads of departments, meteorological observations, and reprints of Bulletins 239-247 and Special Bulletins 36-38,\* inclusive, issued during the year.

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\* Special Bulletin 38 in this report (pp. 301-335), entitled "Report of the South Haven Substation, 1906," is Special Bulletin 40, and Special Bulletin 38 (pp. 336-392), entitled "Report of the Upper Peninsula Substation for the Years 1905 and 1906," is Special Bulletin 41, both being noted above.

MINNESOTA STATION, St. Anthony Park, St. Paul, E. W. Randall, Director.

The Importance of the Study of Entomology. How to Collect and Preserve Insects. By F. L. Washburn. (Bulletin 105, pp. 30, pls. 4, figs. 61.)

This bulletin discusses the economic relations of insect life to wealth production, and gives directions for the collection and preservation of insects for study, many of the most important economic species being illustrated.

MISSISSIPPI STATION, Agricultural College, W. L. Hutchinson, Director.

The Adornment of Rural School Surroundings. By G. L. Clothier. (Bulletin 109, pp. 12, figs. 5.)

This bulletin gives notes on the improvement of school grounds and roadways, including directions on how to handle nursery stock, to plant shrubs, to make lawns and walks, etc. A plan of a model country school is appended.

NEBRASKA STATION, Lincoln, E. A. Burnett, Director.

Cultivation of Small Grains. The Use of the Fanning Mill for Selecting Seed Wheat and Seed Oats. By E. G. Montgomery. (Bulletin 104, pp. 34, fig. 1.)

This bulletin gives the results of experiments covering a period of eight years with the cultivation of small grains and the use of heavy and light seed wheat and oats.

NEW MEXICO STATION, Agricultural College, L. Foster, Director.

Eighteenth Annual Report, 1907. (Annual Report, 1907, pp. 56.)

This contains the report of the director reviewing the work of the station during the year, reports by the various department officers, and a financial statement to June 30, 1907.

NEW YORK STATE STATION, Geneva, W. H. Jordan, Director.

Dipping of Nursery Stock in the Lime-Sulphur Wash. By P. J. Parrott, H. E. Hodgkiss, and W. J. Schoene. (Bulletin 302, pp. 175-202, pls. 2.)

This bulletin is a contribution of additional data on the efficacy of dipping nursery stock. The experiments have been made for the purpose of determining "(1) the effectiveness of the lime-sulphur wash as a dip on the San José scale, and (2) the effects of dipping in this mixture upon the health of nursery trees."

NEW YORK CORNELL STATION, Ithaca, L. H. Bailey, Director.

The Black Rot of the Grape and Its Control. By D. Reddick and C. S. Wilson. (Bulletin 253, pp. 367-388, figs. 11.)

This bulletin is in the nature of a preliminary report on the progress of investigations made at the station in 1906 and 1907 on the nature and control of the black rot of grapes.

OKLAHOMA STATION, Stillwater, W. L. English, Director.

San José Scale in Oklahoma. By J. F. Nicholson. (Bulletin 79, pp. 67-88, figs. 12.)

This bulletin gives a brief history of the San José scale in Oklahoma, a description of the scale and of its habits, and the results of experiments in controlling the pest, including directions for the fumigation of nursery stock.

Rations for Fattening Hogs. By W. T. McDonald and J. S. Malone. (Bulletin 80, pp. 89-96.)

A pig feeding experiment conducted by the station for the purpose of determining the relative value of different food stuffs as supplements to corn is reported in this bulletin.

SOUTH CAROLINA STATION, Clemson College, J. N. Harper, Director.

The Manufacture of Starch from Sweet Potatoes. By C. C. McDonnell. (Bulletin 136, pp. 50, pl. 1, figs. 11.)

This bulletin gives a brief history of the sweet potato, method of culture, chemical composition, etc., and reports in detail some practical tests begun in 1905 on the manufacture of starch therefrom "in order not only to determine how much starch could be recovered commercially from the potatoes, but also to have the qualities of this starch tested for the different uses to which starch is put."

TEXAS STATION, College Station, H. H. Harrington, Director.

Texas Honey Plants. By C. E. Sanborn and E. E. Scholl. (Bulletin 102, pp. 31.)

In this bulletin are given the scientific and common names of many of the Texas honey plants, together with brief descriptive notes of each species, and is published in the expectation of helping apiarists in selecting locations for bees.

Forage Crops in Northwest Texas. By A. B. Conner. (Bulletin 103, pp. 21, figs. 7, map 1.)

The results of cooperative forage crop investigations between the Texas Station and the Bureau of Plant Industry of this Department are reported, the purpose being to determine the best forage crops adapted to the different regions. "In addition to ascertaining the crops best adapted, the work has included the selection and improvement of the best sorghum varieties for forage with the view to obtaining pure and early strains, which would mature evenly and give increased yields per acre. Another object was to find a legume which could be utilized as a hay crop and for improving the soil."

WASHINGTON STATION, Pullman, R. W. Thatcher, Director.

Washington Soils. By R. W. Thatcher. (Bulletin 85, pp. 56, figs. 2.)

The purpose of this bulletin is to give the results of analyses of 89 soil samples secured from different parts of the State and representing different types, and to summarize the results of the soil survey completed with the publication of these studies, which have been in progress since 1893, the preceding results having been published in Bulletins 13 and 55 of the station.

Pruning Fruit Trees. By W. S. Thornber. (Popular Bulletin 3, pp. 4, figs. 8.)

This bulletin gives notes on the advantages and methods of pruning apple, pear, cherry, and peach trees.

Notes on Swine Management. By W. A. Linklater. (Popular Bulletin 4, pp. 4, figs. 2.)

Notes are given in this bulletin on the advantages the State of Washington offers for hog raising, and directions are given for the culture of peas, corn, kale, turnips, and hairy vetch for hog pastures.

Spraying for the Codling Moth. By A. L. Melander. (Popular Bulletin 5, pp. 8, fig. 1.)

"This bulletin is a summary of the results of four years of study of the life history and methods of combating the codling moth."

WISCONSIN STATION, Madison, H. L. Russell, Director.

The Grade Stallion Situation in Wisconsin. By A. S. Alexander. (Bulletin 158, pp. 35, figs. 12, map 1.)

This bulletin describes the conditions of the horse-breeding industry in Wisconsin, gives statistics of the prevalence of grade stallions and number and character of licenses issued to date, and describes the general stallion situation throughout the State.

Tests of Dairy Cows, 1906-7. By F. W. Woll and R. T. Harris. (Bulletin 160, pp. 39, pl. 1, figs. 16.)

"The present bulletin contains a report of the work done in the line of testing dairy cows for official and semi-official records during the year ended October 1, 1907."

Grains and Forage Crops for Northern Wisconsin. By R. A. Moore and E. J. Delwiche. (Bulletin 161, pp. 23, figs. 6.)

The purpose of this bulletin is to speak of the merits or demerits of crops grown during the past two years at the substation farms and to call attention to other crops that seem suited to the North. Among the crops discussed are barley, corn, oats, field peas, wheat, alfalfa, clover, soy beans, and root crops.

Rusty Cans and Their Effect Upon Milk for Cheesemaking. By G. A. Olson. (Bulletin 162, pp. 12, figs. 2.)

This bulletin describes the sanitary and other conditions which are requisite to the successful making of good cheese. The results of investigations by the author on the influence of various metals on the action of rennet are reported with a view of impressing upon milk producers and factory operators the need of a better grade of utensils used in the handling of milk and its products.

Licensed Commercial Fertilizers, with List of Licensed Feeding Stuffs, 1908. By F. W. Woll and G. A. Olson. (Bulletin 163, pp. 31.)

This bulletin gives the results of analyses of commercial fertilizers licensed for sale in the State during the year 1908, together with a list of feeding stuffs for which licenses have been taken out by the manufacturers or agents up to April, 1908.

WYOMING STATION, Laramie, J. D. Towar, Director.

Wyoming Forage Plants and Their Chemical Composition—Studies No. 3. By H. G. Knight, F. E. Hepner, and A. Nelson. (Bulletin 76, pp. 119, figs. 50.)

The work reported in this bulletin is in continuation of investigations reported in Bulletins 65 and 70 of the station, and deals with the nature and composition of native forage plants collected at altitudes ranging from about 4,500 to 11,000 feet above sea level. In addition to the analyses, most of the plants are described and illustrated.

**United States Department of Agriculture,  
OFFICE OF EXPERIMENT STATIONS,  
A. C. TRUE, Director.**

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**LIST OF STATION PUBLICATIONS RECEIVED BY THE OFFICE OF  
EXPERIMENT STATIONS DURING JULY, 1908.**

NOTE.—These publications are not distributed by the Department of Agriculture, but can usually be obtained, as far as the supply will permit, by applying to the stations issuing them.

**HAWAII STATION, Honolulu, E. V. Wilcox, Special Agent in Charge.**

The Ceara Rubber Tree in Hawaii. By J. G. Smith and Q. Q. Bradford. (Bulletin 16, pp. 7-30, pls. 4.)

In this bulletin are given the results of one year's experiments in tapping Ceara rubber trees in Hawaii, with descriptions of the methods and apparatus employed.

Hawaiian Honeys. By D. L. Van Dine and Alice R. Thompson. (Bulletin 17, pp. 7-21, pl. 1.)

This bulletin discusses the source and characteristics of Hawaiian honeys and their chemical composition.

**IDAHO STATION, Moscow, H. T. French, Director.**

Conditions Affecting the Production of Denatured Alcohol in the Northwest. By J. S. Jones. (Bulletin 60, pp. 3-21.)

The aim of this bulletin is to present in the simplest manner possible certain general considerations relative to both the production and uses of this comparatively little known and appreciated article of commerce.

Spraying Experiments for 1907. By L. F. Henderson. (Bulletin 61, pp. 3-15.)

The results of spraying experiments conducted in 1907 with different kinds and conditions of insecticides and fungicides for the control of San José scale, codling moth, apple scab, and peach-leaf curl are reported in this bulletin.

Dry Farming in Idaho. By E. Nelson. (Bulletin 62, pp. 3-42, figs. 2, map 1.)

To expound the principles of dry land agriculture particularly as applied to Idaho conditions is the purpose of this bulletin.

Babcock Test for Butter Fat. By J. H. Frandson. (Bulletin 63, pp. 6, figs. 4.)

This bulletin gives directions for operating the Babcock test for fat in milk.

Annual Report, 1907. (Annual Report, 1907, pp. 46, pls. 2.)

This contains a financial statement to June 30, 1907, and the report of the director reviewing the work of the station during the year.

**ILLINOIS STATION, Urbana, E. Davenport, Director.**

The Problem of the Poor Cow. By W. J. Fraser. (Circular 114, pp. 8, figs. 4.)

The records of two of the station cows showing the milk and butter fat production of each for three years are reported in this circular with a view of interesting Illinois dairymen in the value of making tests of individual cows in herds and of increasing the profits of the industry.

Why and How to Test Dairy Cows. By W. J. Fraser. Circular 115, pp. 12, figs. 4.)

The improvement accomplished in the yields of milk and butter fat as a result of weighing and testing the milk and by other progressive methods is described and illustrated in this circular, and directions are given for weighing and sampling the milk for testing.

IOWA STATION, Ames, C. F. Curtiss, Director.

Methods of Determining the Moisture Content of Butter. By G. L. McKay and J. Bower. (Bulletin 97, pp. 4-39, figs. 8, dgm. 1.)

This bulletin gives a description of the methods commonly used in determining the moisture content of butter, and the results are compared with the standard gravimetric analysis recognized by the Association of Official Agricultural Chemists.

Clover Growing on the Loess and Till Soils of Southern Iowa. By W. H. Stevenson and E. B. Watson. (Bulletin 98, pp. 44-66, figs. 9.)

In this bulletin are given the results of an investigation regarding the extent of clover culture in southern Iowa, including both field and laboratory work, with suggestions as to the growing of clover in this region.

KANSAS STATION, Manhattan, C. W. Burkett, Director.

The Deterioration of Red Texas Oats in Kansas. By H. F. Roberts and G. F. Freeman. (Bulletin 153, pp. 147-164, figs. 5.)

The results of tests made at the station with red and black grains of Red Texas oats when grown in Kansas for two or three years are reported in this bulletin.

The Mound-Building Prairie Ant. By T. J. Headlee and G. A. Dean. (Bulletin 154, pp. 165-180, figs. 12.)

Descriptive and life-history notes of the mound-building prairie ant (*Pogonomyrmex occidentalis*) common in Kansas with methods of eradication are presented in this bulletin.

KENTUCKY STATION, Lexington, M. A. Scovell, Director.

Analyses of Commercial Fertilizers. By M. A. Scovell, H. E. Curtis, and G. Roberts. (Bulletin 132, pp. 111-195.)

The results of inspection work, including analyses of 636 samples of fertilizers representing 382 different brands on sale in the State, are reported in this bulletin.

Spraying Apple Trees. Apple Orchard Pests in Kentucky. By H. Garman. (Bulletin 133, pp. 3-71, pls. 27.)

In this bulletin pages 3-13 give the results of experiments to show the effect of arsenate of lead as compared with Paris green in checking the injuries of the codling moth, and to show the effectiveness of spraying with these mixtures when the trees are in full bloom, as compared with spraying after the petals have fallen; while pages 14-71 are devoted to descriptive, life-history, and remedial notes of the various apple pests prevalent in Kentucky.

MARYLAND STATION, College Park, H. J. Patterson, Director.

Manuring and Fertilizing Truck Crops. By C. P. Close and T. H. White. (Bulletin 126, pp. 219-242, figs. 4.)

This bulletin gives the results of tests made to determine the proper use of manures and fertilizers on farm and truck crops grown on Maryland soils.

Miscellaneous Greenhouse Notes. By C. P. Close, T. H. White, and W. R. Ballard. (Bulletin 127, pp. 243-263, figs. 4.)

The results of experiments carried on in the station greenhouse during the past eight years are reported in this bulletin. The topics discussed are: Chrysanthemums and lettuce—fertilizer in solution, cover crop soils, phosphates supplementing manure, continuous cropping without changing soil, care of solid beds; carnations—effects of large amounts of nitrogen on growth and bloom, effects of fertilizer on stiffness of stem, different times of setting, continuous cropping without change of soil, bursting due to location on benches; subirrigation *v.* surface watering for lettuce and carnations; solid beds *v.* benches for tomatoes, carnations, and lettuce; and variety tests of tomatoes.

The Effect of Animal Digestion and Fermentation of Manures on the Vitality of Seeds. By E. I. Oswald. (Bulletin 128, pp. 265-291, figs. 3.)

The results of tests made at the station, under conditions as nearly as possible similar to those of the farm, to determine the effect of their passage through the digestive system of animals and of the fermentation of manures on the vitality of seeds are reported in this bulletin.

MASSACHUSETTS STATION, Amherst, W. P. Brooks, Director.

Meteorological Observations. By J. E. Ostrander and R. C. Lindblad. (Meteorological Bulletin 234, pp. 4.)

This is a summary for June, 1908.

MICHIGAN STATION, East Lansing, R. S. Shaw, Director.

Insects of 1907. By R. H. Pettit. (Bulletin 251, pp. 111-123, figs. 12.)

This bulletin deals with a few of the insects of 1907, either new to the State or of special interest at the present time. The insects noted are oat thrips (*Anaphothrips striatus*); pentatomids (*Perillus claudus*), which were found feeding on potato beetles; tussock moth (*Notolophus leucostigma*); clover-hay worm (*Pyralis costalis*); bean maggot (*Pegomyia fusciceps*); rose chafer (*Macrodactylus subspinosus*); *Anomala binotata* on apples; and strawberry crown girdler (*Otiorhynchus ovatus*).

Bacterial Associations in the Souring of Milk. By C. E. Marshall and Belle Farrand. (Special Bulletin 42, pp. 3-63.)

This bulletin contains the results of investigations on the association of bacteria in the souring of milk in continuation of previous work published in Special Bulletins 23, 29, and 33 of the station. The work in this bulletin is more extended and deals particularly with the entire microbial content of milk existing under ordinary dairy conditions.

The Solvent Action of Soil Bacteria Upon the Insoluble Phosphates of Raw Bone Meal and Natural Raw Rock Phosphate. By W. G. Sackett, A. J. Patten, and C. W. Brown. (Special Bulletin 43, pp. 3-30.)

The results of tests made to determine how insoluble phosphoric compounds, now quite generally used in the field as fertilizers, are made soluble and what part micro-organisms play in this solvent action are reported in this bulletin.

MONTANA STATION, Bozeman, F. B. Linfield, Director.

Canadian Field Peas. By A. Atkinson. (Bulletin 68, pp. 83-90, pls. 3.)

Based on the experience of the station and of a few farmers in the State, this bulletin describes the most approved methods for the culture and management of Canadian field peas, which it is believed can be successfully grown in most farming sections of Montana.

The Effect of Alkali on Portland Cement. By E. T. Tannatt and E. Burke. (Bulletin 69, pp. 93-120, pls. 5, figs. 4.)

This bulletin gives the results of cooperative tests made by the engineering and chemistry departments of the station for the purpose of determining the chemical reactions of alkalis and their destructiveness to cement, and of devising means of overcoming these effects.

The Douglas Spruce Cone Moth. By R. A. Cooley. (Bulletin 70, pp. 125-130, pl. 1.)

This bulletin gives life-history and descriptive notes of the Douglas spruce cone moth (*Cydia pseudotsugana*) as a result of investigations begun in 1900 and continued to 1907.

Fifth Annual Report of the State Entomologist of Montana. By R. A. Cooley. (Bulletin 71, pp. 131-152, figs. 3.)

The present report discusses the principal entomological features in Montana for the year 1907, but gives particular prominence to the army cutworm.

Fourteenth Annual Report, 1907. (Annual Report, 1907, pp. 155-185.)

This contains a financial statement to June 30, 1907, a report by the director reviewing the work of the station during the year, a list of station publications, the station exchange list, meteorological data for 1907, etc.

NEW HAMPSHIRE STATION, Durham, E. D. Sanderson, Director.

Strawberries for New Hampshire. By H. F. Hall. (Bulletin 137, pp. 159-188, figs. 32.)

Directions for the culture of strawberries in New Hampshire, with descriptive notes of the different varieties tested on the college grounds, many of which are new varieties.

Humus in New Hampshire Soils. By F. W. Morse. (Bulletin 138, pp. 191-203, figs. 3.)

The purpose of this bulletin is to show how much humus there is in typical New Hampshire soils and how to maintain it as an effective soil constituent.

NEW MEXICO STATION, Agricultural College, L. Foster, Director.

The Range Problem in New Mexico. By E. O. Wooton. (Bulletin 66, pp. 3-46, pls. 10.)

This bulletin presents a statement of the factors affecting the live-stock industry in New Mexico, and points out how the conservation of the forage crop of the public lands will tend to increase the general prosperity. The bulletin discusses the area, topography, and the forage plants of New Mexico.

Chile Culture. By F. Garcia. (Bulletin 67, pp. 4-32, figs. 10.)

Notes are given on the methods of planting, cultivating, and harvesting chiles in New Mexico.

NEW YORK CORNELL STATION, Ithaca, L. H. Bailey, Director.

Drainage in New York. By E. O. Fippin. (Bulletin 254, pp. 391-428, figs. 29.)

The purposes of this bulletin are to call attention to the widespread need of better farm drainage in the State; to recommend the substitution of tile drainage for most of the surface drainage in use at present; and to get in touch with all those persons in the State who have had experience with tile drains and with those who will install them in the future to determine (1) how large the results are which accrue from tile drainage on all types of soil and with all kinds of crops and farm practice; (2) the best methods of laying tile on different soil types; and (3) the cost of tile drainage on different kinds of soil and under different farm conditions.

NORTH DAKOTA STATION, Agricultural College, J. H. Worst, Director.

Report of Food Commissioner. By E. F. Ladd. (Annual Report, 1907, Part II, pp. 9-164, figs. 9.)

This contains the report of the State food commissioner giving the results of the examination of foods, drugs, and paint products for the year ended December 31, 1907.

OHIO STATION, Wooster, C. E. Thorne, Director.

Silage for Fattening Cattle. By B. E. Carmichael. (Bulletin 193, pp. 149-166.)

This bulletin gives the results of an experiment conducted at the station in 1907, for the purpose of determining whether or not silage could be profitably used for the fattening of beef cattle.

Millett. By C. G. Williams. (Circular 81, pp. 6.)

This circular discusses the uses, varieties, and culture of millet as a hay crop, and for other purposes.

SOUTH DAKOTA STATION, Brookings, J. W. Wilson, Director.

Stock Food for Pigs. By J. W. Wilson and H. G. Skinner. (Bulletin 105, pp. 300-317, figs. 9.)

This bulletin gives the results obtained during the past two years in feeding five of the commonly used stock foods to fattening pigs, together with an experiment made to determine the feeding value of grain when mixed with a home-made preparation to the feeding value of grain when mixed with a stock food. Analyses of the stock foods used are included.

Growing Sugar-Beet Seed in South Dakota. By J. H. Shepard. (Bulletin 106, pp. 320-349, figs. 8.)

In this bulletin are given the results of cooperative work between the station and the Bureau of Plant Industry of this Department in the growing and improving of sugar-beet seed adapted to South Dakota. Notes are given on varieties, culture, harvesting, and analysis of beets, and a summary of work with sugar beets in previous years is included.

Sheep Scab. By E. L. Moore. (Bulletin 107, pp. 353-382, figs. 4.)

This bulletin describes the various forms of sheep scab and the means of transmitting the disease, discusses the composition and effectiveness of various dips, and gives information concerning the constituents and effectiveness of certain coal-tar creosote dips and cresol dips which were obtained through cooperative experiments conducted by the station and the Bureau of Animal Industry of this Department. The Federal and State regulations to prevent the spread of scabies in sheep are also reported.

New Hybrid Fruits. By N. E. Hansen. (Bulletin 108, pp. 3-16, figs. 8.)

Descriptive notes and illustrations are given in this bulletin of some promising new fruits which have been originated at the South Dakota Station by crossing the native Dakota plums and sand cherries with other stone fruits from Europe and Asia.

WASHINGTON STATION, Pullman, R. W. Thatcher, Director.

The Milling Quality of Washington Wheat. By R. W. Thatcher. (Popular Bulletin 6, pp. 4.)

This bulletin is a popular summary of the results of work on the milling quality of Washington wheat reported in detail in Bulletin 84 of the station.

Summary of the Soil Survey of the State. By R. W. Thatcher. (Popular Bulletin 7, pp. 8.)

"This bulletin contains a summarized statement of some of the more important general conclusions which have been drawn from the results of the soil survey of the State, which has been carried on by the department of chemistry for the past fourteen years."

WEST VIRGINIA STATION, Morgantown, J. H. Stewart, Director.

Tomato Notes. By W. M. Munson. (Bulletin 117, pp. 251-262, pls. 2.)

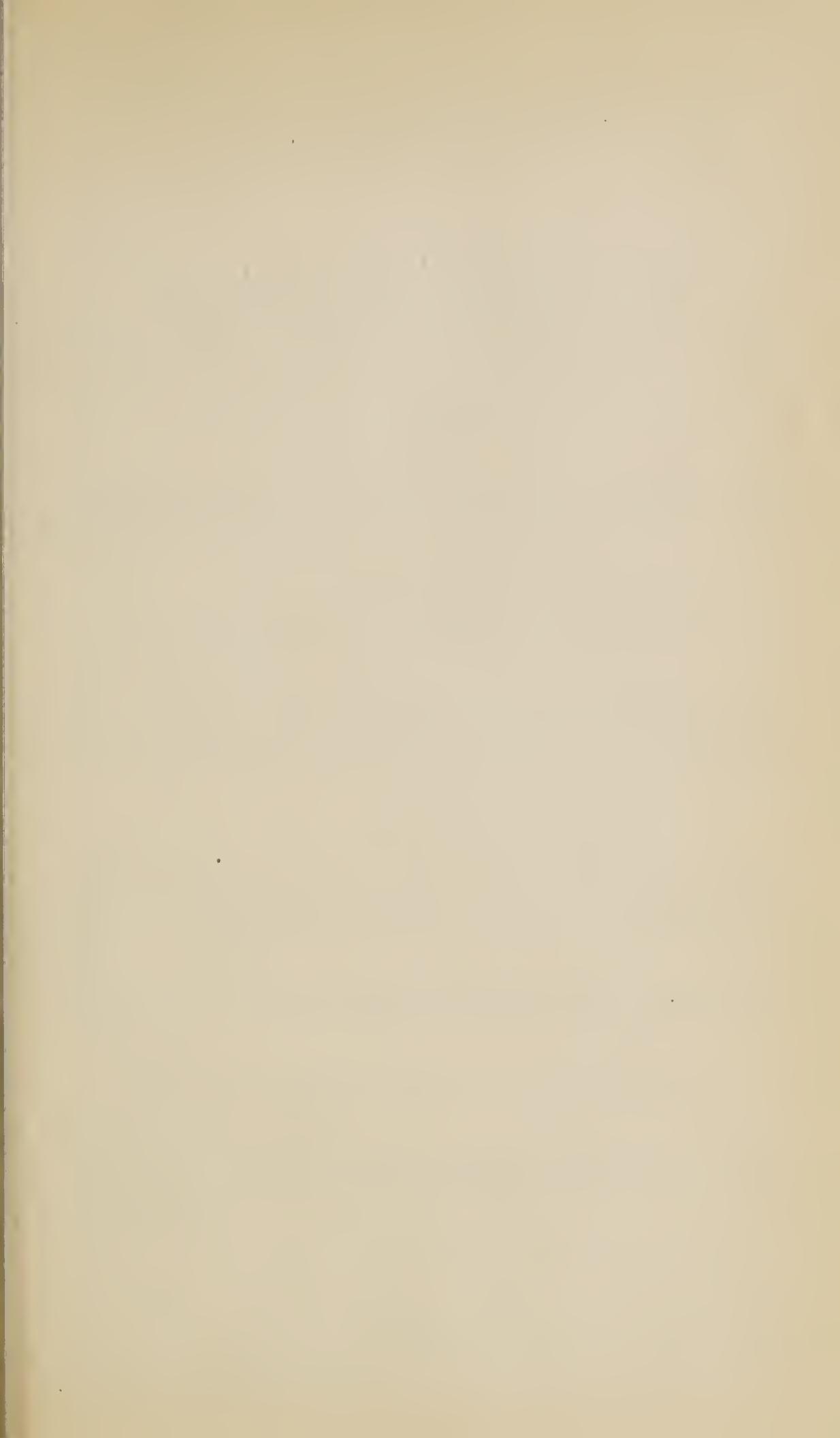
"This bulletin contains notes upon the history of the tomato, the development of modern forms, breeding new varieties, field culture, tomato growing in winter, and financial returns."

WISCONSIN STATION, Madison, H. L. Russell, Director.

The Cranberry Insects of Wisconsin. By C. B. Hardenberg. (Bulletin 159, pp. 3-23, pls. 2.)

The results of two seasons' work on the life histories of the insects affecting cranberries in Wisconsin are reported in this bulletin.







United States Department of Agriculture,  
OFFICE OF EXPERIMENT STATIONS,  
A. C. TRUE, Director.

**LIST OF STATION PUBLICATIONS RECEIVED BY THE OFFICE OF  
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NOTE.—These publications are not distributed by the Department of Agriculture, but can usually be obtained, as far as the supply will permit, by applying to the stations issuing them.

ALABAMA TUSKEGEE STATION, Tuskegee Institute, G. W. Carver, Director.

How to Cook Cowpeas. By G. W. Carver. (Bulletin 13, pp. 3-12.)

This bulletin is practically a reprint of Bulletin 5 of the station on the cooking of cowpeas, with some additional notes on varieties and nutritive value of cowpeas and a few new recipes.

ARKANSAS STATION, Fayetteville, W. G. Vincenheller, Director.

Notes on the Cattle Tick and Tick Fever of Cattle. Tick Eradication in Arkansas in 1907. By R. R. Dinwiddie and W. Lenton. (Bulletin 101, pp. 185-220.)

Part 1 of this bulletin gives observations and experiments on the local life history of cattle ticks in reference to the problem of tick eradication in north Arkansas, experiments on the natural and artificial transmission of tick fever, and tests of treatment by hyperimmune serum and by intravenous medication. Part 2 gives the progress of the work of tick eradication in north Arkansas in 1907.

ARIZONA STATION, Tucson, R. H. Forbes, Director.

Timely Hints for Farmers. (Bulletin 57, pp. 247-287, figs. 6.)

This bulletin contains reprints of Press Bulletins 60-66, inclusive, issued by the station on the following topics: Honey vinegar, disk-harrowing alfalfa, suggestions for arbor-day planting, a lesson in intensive farming, suggestions for the control of the codling moth, contagious abortion in cattle, and observations on nurse crops for alfalfa.

Volume IV of the Arizona Experiment Station Publications, consisting of Bulletins 41-51 and Annual Reports 1902-1904. (Index Bulletin, pp. 557-590.)

CALIFORNIA STATION, Berkeley, E. J. Wickson, Director.

The Argentine Ant in California. By C. W. Woodworth. (Circular 38, pp. 11, figs. 2.)

Notes are given on the history in foreign countries, relation to other insects, destructiveness, and life history of the Argentine ant, which has been introduced into the State. Known remedies and suggestions for the eradication of this pest are also presented.

CONNECTICUT STORRS STATION, Storrs, L. A. Clinton, Director.

Poultry Culture. By C. K. Graham. (Bulletin 52, pp. 115-134, figs. 24.)

This bulletin contains the information published in Bulletin 36 of the station on the care and management of poultry, with a few additional notes on the methods of preparing poultry for market.

**Improving Dairy Conditions.** By J. M. Trueman. (Bulletin 53, pp. 139-164, figs. 20.)

This bulletin gives information regarding the improvement of dairy conditions in the State, and includes directions for building up the dairy herd, the sanitation and ventilation of dairy buildings, and the production and handling of the milk.

**GEORGIA STATION,** Experiment, M. V. Calvin, Director.

**Cooperative Dairy Investigations.** By P. N. Flint and J. E. Dorman. (Bulletin 80, pp. 143-172, figs. 13.)

This bulletin gives the results of cooperative work between the station and the Bureau of Animal Industry of this Department in the testing of dairy cows with a view of furthering systematic dairying in Georgia.

**ILLINOIS STATION,** Urbana, E. Davenport, Director.

**Cows vs. Cows.** By W. J. Fraser. (Circular 118, pp. 3-26, figs. 14.)

This is an address delivered at various dairy meetings embodying the chief results of investigations carried on for some years by the station in determining the most profitable dairy cow.

**Washing of Soils and Methods of Prevention.** By J. G. Mosier. (Circular 119, pp. 16, fig. 1.)

This circular discusses the causes of sheet washing and gullyng of cultivated lands, describes the effects of washing on certain Illinois soils, and gives the methods of preventing washing and gullyng as practiced in Illinois and other States.

**Spraying Apple Orchards for Insects and Fungi.** By B. S. Pickett. (Circular 120, pp. 3-36, figs. 18.)

The object of this circular is to set forth, as clearly as possible, some of the salient points in the spraying of apple orchards for insects and fungus diseases. Emphasis is especially laid on the particular insecticides and fungicides used, their methods of preparation, and the manner and time of application.

**INDIANA STATION,** Lafayette, A. Goss, Director.

**Supplements to Corn for Fattening Hogs in Dry Lot.** By J. H. Skinner and W. A. Cochel. (Bulletin 126, pp. 143-159.)

The purpose of this bulletin is to present the results of a series of tests to determine the relative values of tankage, linseed meal, and soy-bean meal as supplements to corn meal for fattening pigs.

**Milk Production, I.—Herd Improvement.** By H. A. Hopper. (Circular 11, pp. 8, figs. 4.)

This circular gives notes on the number of profitless cows in Indiana, points out some of the factors necessary to improve dairy herds, and shows what can be done in profitable returns by intelligent dairy farmers in the State.

**Beef Production, II.—Methods of Beef Production in Indiana.** By J. H. Skinner and W. A. Cochel. (Circular 12, pp. 32.)

"The information reported in this circular is the result of an investigation of the methods of beef production in Indiana, instituted by the animal husbandry department of Purdue Experiment Station in 1906." The information relates to the extent of the business of feeding cattle, the equipment used, and the methods of feeding in vogue among feeders in the State.

**Milk Production, II.—Feeding.** By H. A. Hopper. (Circular 13, pp. 21, figs. 3.)

The object of this circular is to furnish information to farmers regarding the essential facts and principles thus far known to be useful in the proper feeding for milk production.

**Beef Production, III.—Factors Influencing the Value and Cost of Feeders.** By J. H. Skinner and W. A. Cochel. (Circular 14, pp. 23, figs. 22.)

The factors influencing the value and cost of feeders for the production of beef are discussed in this circular.

**IOWA STATION, Ames,** C. F. Curtiss, Director.

**Results of Seed Investigations for 1907.** By L. H. Pammel and Charlotte M. King. (Bulletin 99, pp. 71–91, figs. 22.)

The results of seed examination in 1907 as to purity and vitality are reported in this bulletin.

**Pure Seed Investigations.** By C. V. Gregory. (Bulletin 99, popular edition, pp. 3–14, fig. 1.)

This is a popular edition of the above bulletin.

**LOUISIANA STATIONS, Baton Rouge,** W. R. Dodson, Director.

**A Preliminary Report on the So-called Cerebro-spinal Meningitis of Horses.** By H. J. Milks. (Bulletin 106, pp. 3–17, pls. 4.)

The cause, symptoms, post-mortem appearance, pathological histology, and prevention of this disease are discussed in this bulletin.

**Preliminary Tests of Sugar-house Machinery.** By E. W. Kerr. (Bulletin 107, pp. 16, figs. 6.)

The results of a series of tests of sugar-house machinery as to the relations of capacity, energy consumed, and efficiency are reported in this bulletin.

**Cartography of Southwestern Louisiana with Special Reference to the Jennings Sheet.** By G. D. Harris. (Geological Survey Bulletin 6, pp. 3–24, maps 2.)

The results of cooperative work between the State and the U. S. Geological Survey are reported in this bulletin.

**MASSACHUSETTS STATION, Amherst,** W. P. Brooks, Director.

**Bee Diseases in Massachusetts.** By B. N. Gates. (Bulletin 124, pp. 3–12, map 1.)

This bulletin gives the results of a very careful investigation, showing a wide distribution of the two most serious of all bee diseases—American foul brood and European foul brood—and describes the treatment necessary in order to control them.

**Meteorological Observations.** By J. E. Ostrander and R. C. Lindblad. (Meteorological Bulletin 235, pp. 4.)

This is a summary for July, 1908.

**Twentieth Annual Report, 1907.** (Annual Report, 1907, pp. 172, figs. 6.)

This contains the usual reports by the director and heads of departments reviewing the work of the station during the year, and a financial statement to June 30, 1907. The department reports include special articles on field problems connected with the use of manures and fertilizers, poultry experiments, the propagation of apples, variation in peas, the physiological constant for the germinating stage of cress, the chemical composition of milk, the effect of food upon the composition of milk and butter fat and upon the consistency or body of butter, standard for Babcock glassware, investigations relating to mosaic disease, some factors which underlie susceptibility and immunity to disease, and other subjects.

**The Cost of Testing Pure-bred Cows.** By J. B. Lindsey. (Circular 15, pp. 2.)

This circular is supplementary to Circular 9 of the station and contains the schedule of prices for conducting dairy tests as adopted by the board of trustees of the Massachusetts Agricultural College to go into effect September 1, 1908.

**Seeding Mowings.** By W. P. Brooks. (Circular 16, pp. 8, figs. 3.)

This circular discusses seeding down to grass or mixed grass and clover. The topics especially considered are preparatory fertilization, time and method of seeding, preparatory tillage, and varieties of grass and clover to be used.

**MICHIGAN STATION,** East Lansing, R. S. Shaw, Director.

**Alfalfa.** By R. S. Shaw. (Circular 1, pp. 4.)

Notes are given in this circular on the raising of alfalfa in Michigan, with particular reference to the suitability of soils, cultivation, seeding, fertilization, nurse crops, inoculation, and pasturing of this crop.

**The Babcock Test.** By W. B. Liverance. (Circular 2, pp. 7-16, figs. 6.)

Notes are given in this circular on the use of the Babcock test in determining the percentage of fat in whole milk, skim milk, buttermilk, cream, cheese, and whey.

**MISSOURI FRUIT STATION,** Mountain Grove, P. Evans, Director.

**Demonstration Spraying for Bitter Rot and Codling Moth.** By F. W. Faurot. (Bulletin 15, pp. 3-17, pls. 10.)

The results of cooperative spraying work for the control of bitter rot and the codling moth conducted between the Bureau of Plant Industry of this Department and the station are reported in this bulletin.

**Fruit Tree Diseases and Fungicides.** By F. M. Rolfs. (Bulletin 16, pp. 3-39.)

This bulletin gives an account of various fungus diseases common to the cultivated fruits in the Ozark region with methods of control. An extensive bibliography is appended.

**MISSOURI STATION,** Columbia, H. J. Waters, Director.

**Inspection of Commercial Fertilizers.** By P. F. Trowbridge. (Bulletin 80, pp. 3-14.)

The results of analyses of the samples of fertilizers collected in the course of inspection to June 1, 1908, are reported in this bulletin.

**Feeding the Orchard.** By H. J. Waters. (Circular of Information 22, pp. 32, pls. 3.)

This circular gives information on orchard fertilization and management gained from accurate experimental work or based upon long-conducted observations in the culture of apples, peaches, pears, etc.

**Fungicides, Insecticides, and Spray Calendar.** By E. H. Favor. (Circular of Information 23, pp. 3-19, figs. 5.)

This circular gives formulas and directions for making and applying the most important insecticides and fungicides used in controlling the more injurious pests of the garden and orchard.

**MONTANA STATION,** Bozeman, F. B. Linfield, Director.

**Measurement of Water.** By E. T. Tannatt and R. D. Kneale. (Bulletin 72, pp. 3-40, pls. 7, figs. 7.)

This bulletin contains much of the matter set forth in Bulletin 34 of the station with such additional information as the station has been able to secure on the measurement of water by the examination of a large number of weirs and measuring devices in use throughout the State.

**NEW HAMPSHIRE STATION**, Durham, E. D. Sanderson, Director.

Mixing Chemical Fertilizers on the Farm. By F. W. Morse. (Circular 1, pp. 4.)

This circular gives notes on the characteristics and fertilizing value of the more common fertilizers, points out the advantages of mixing fertilizers on the farm, and gives a number of fertilizers for different crops.

Testing Soils for Fertilizer Needs. By F. W. Taylor. (Circular 2, pp. 2.)

Notes are given in this circular for the most practical way for farmers by means of field tests to determine the fertilizer requirements of soils.

**NEW YORK STATE STATION**, Geneva, W. H. Jordan, Director.

Inspection of Feeding Stuffs. (Bulletin 303, pp. 203-254.)

This bulletin gives the results of analyses of samples of feeding stuffs collected in the course of feeding-stuff inspection during the fall of 1907 and winter of 1907-8.

Dodder in Alfalfa Seed. By F. C. Stewart and G. T. French. (Circular 8, pp. 4, pls. 2.)

This circular calls attention to the destructiveness of dodder to alfalfa and clover and to the desirability of hand sifting alfalfa seed before sowing to avoid the spread of this weed pest.

Remedies for the San José Scale and Directions for Their Use. By P. J. Parrott. (Circular 9, pp. 12, figs. 2.)

Formulas, methods of preparation, and the use of various insecticides are given in this circular.

**NORTH CAROLINA STATION**, West Raleigh, C. B. Williams, Director.

Some Insect Enemies of Garden Crops. By R. I. Smith. (Bulletin 197, pp. 5-64, figs. 38.)

This bulletin contains information concerning the habits and life history of some of the more common pests of garden crops, with directions and formulas for preparing insecticides for the control of these pests.

**OHIO STATION**, Wooster, C. E. Thorne, Director.

Cooperative Potato Experiments for 1908. By W. J. Green and L. H. Goddard. (Circular 77, pp. 3.)

This circular gives notes on the plans of tests suggested by the station for cooperative work in the culture of potatoes in 1908.

**OKLAHOMA STATION**, Stillwater, W. L. English, Director.

The Cattle Tick. By L. L. Lewis. (Circular of Information 11, folio.)

Notes are given in this circular on the methods of ridding cattle and pastures of the Texas fever cattle tick in Oklahoma.

**OREGON STATION**, Corvallis, J. Withycombe, Director.

Preserving Wild Mushrooms. By E. F. Pernot. (Bulletin 98, pp. 3-6.)

Notes on the methods of preserving by means of canning, drying, etc., the common field mushroom (*Agaricus campestris*) for culinary use during the non-growing seasons.

Orchard Survey of Wasco County. By C. I. Lewis and R. W. Allen. (Bulletin 99, pp. 3-56, figs. 13.)

The results of investigations conducted by the station in 1907 in two districts where fruit culture has become highly specialized are reported in this bulletin, with a view of presenting general principles and statistics which should be of value to the fruit growers of the whole State.

Hints for Eastern Oregon Farmers. By J. Withycombe, C. E. Bradley, C. I. Lewis, and H. D. Scudder. (Circular Bulletin 2, pp. 24.)

This circular contains notes on the live-stock industry, the soils, and the horticultural and field crop products of the State of Oregon, and was prepared with a view of directing attention to improved methods of husbandry adaptable to the agricultural conditions of eastern Oregon.

PENNSYLVANIA STATION, State College, T. F. Hunt, Director.

Annual Report, 1907. (Annual Report, 1907, pp. 236, figs. 16.)

This report contains a financial statement to June 30, 1907, and reports by the director and heads of divisions, meteorological data for the calendar year 1906, reprints of Bulletins 82, 83, and 85 of the station, and the following articles: A test of soiling crops for dairy cows, the available energy of red clover hay, and small fruits in 1906. An appendix to the librarian's report for 1907 consists of a check list of publications of the State College, including student publications and bibliographical references.

SOUTH CAROLINA STATION, Clemson College, J. N. Harper, Director.

Hook-worm Disease of Cattle (Uncinariasis). By A. F. Conradi and E. Barnett. (Bulletin 137, pp. 23, figs. 9.)

This bulletin gives the results of preliminary investigations on the hook-worm disease of live stock which has been quite prevalent in the locality of the station, causing heavy losses of sheep and young cattle.

Milk Fever (Parturient Paresis): Its Prevention and Successful Treatment. (Bulletin 139, pp. 3-13, figs. 6.)

This bulletin gives a brief description of this disease, together with an outline of its successful treatment.

Some Conditions Influencing Cotton Production. By C. L. Newman. (Bulletin 140, pp. 3-31.)

This bulletin gives the results of variety tests of cotton in 1907 as part of the work in improving the production of cotton in the State, which includes a series of experiments dealing with soil improvement, fertilization, rotation and diversification, and breeding and improving cotton.

SOUTH DAKOTA STATION, Brookings, J. W. Wilson, Director.

Rusts of Cereals and Other Plants. By E. W. Olive. (Bulletin 109, pp. 3-20, figs. 5.)

Notes on the prevalence, destructiveness, life history, and means of controlling the most important rusts in South Dakota.

TENNESSEE STATION, Knoxville, H. A. Morgan, Director.

Nineteenth Annual Report, 1906. (Annual Report, 1906, pp. 91-108, figs. 2.)

This contains the report of the director reviewing the work of the station during the year, departmental reports, and a financial statement to June 30, 1906.

TEXAS STATION, College Station, H. H. Harrington, Director.

Digestion Experiments. By G. S. Fraps. (Bulletin 104, pp. 5-33.)

The objects of the work published in this bulletin are as follows: (1) To secure some information regarding the relative feeding values of Kafir corn, milo maize, and molasses by means of a determination of the quantity of these feeds which is digested by steers; (2) to determine the percentages of sugar, starch, and pentosans digested by the animals from these feeding stuffs; and (3) to determine the proportions of the phosphoric acid, potash, and nitrogen in the food which are excreted in the solid excrement.

Notes on Forest and Ornamental Trees on the Grounds of the Agricultural and Mechanical College of Texas. By H. Ness. (Bulletin 105, pp. 3-14, pls. 10.)

The Production of Active Nitrogen in the Soil. By G. S. Fraps. (Bulletin 106, pp. 4-31, figs. 5.)

The results of experiments conducted at the station "to ascertain whether soils vary as much in their capacity for producing active nitrogen, that is, ammonia and nitrates, as in their ability to produce nitrates alone," are reported in this bulletin.

Spray Calendar. By A. F. Conradi. (Circular 10, folio.)

This circular gives directions for making and applying the most commonly used insecticides and fungicides.

UTAH STATION, Logan, E. D. Ball, Director.

Milling Qualities of Wheat. By R. Stewart and J. E. Greaves. (Bulletin 103, pp. 243-276, figs. 2.)

Investigations regarding the chemical and milling quality of different varieties of wheat grown in the State since 1904 are reported in this bulletin.

Seventeenth Annual Report, 1906. (Annual Report, 1906, pp. XLIX.)

This contains the usual executive, departmental, and financial reports for the year 1906, with reviews of Press Bulletin 11 and Bulletins 94-96 of the station.

VERMONT STATION, Burlington, J. L. Hills, Director.

Commercial Fertilizers. By J. L. Hills, C. H. Jones, and C. Cutler. (Bulletin 135, pp. 59-184, dgms. 10.)

This bulletin gives a summary of 25 years of fertilizer inspection work in the State, together with a discussion of soil deterioration and soil humus. The latter attempts to cover causes and remedies, with particular reference to the humus content of the soil, its benefits, maintenance, and increase.

Abstract Twentieth Report, 1906-7. (Bulletin 136, pp. 187-222.)

This bulletin summarizes the work of the station in 1906-7 relating to plant diseases, horticulture, weeds, and insects, full reports of which are published in the twentieth annual report.

Abstract Twentieth Report, 1906-7. (Bulletin 137, pp. 227-264.)

This bulletin summarizes the work of the station in 1906-7 relating to crops, forestry, stock feeding, and dairy husbandry, full reports of which are published in the twentieth annual report.

Twentieth Annual Report, 1907. (Annual Report, 1907, pp. 299-518.)

This contains a financial statement to June 30, 1907, a report by the director reviewing the work of the station during the year and giving a list of station bulletins available for distribution, abstracts of the bulletins issued during the year, and the following articles: The occurrence of plant diseases in 1907, potato spraying experiments, the damping off of coniferous seedlings, the Vermont State nursery for forest-tree seedlings, seasonal influence in carnation crossing relative to seed production, the Montreal market muskmelon industry, moisture and decay loss of Hubbard squash in storage, miscellaneous analyses, experiments in drug-plant cultivation, and condensed outlines of articles published in reports 1-19, Bulletins 1-133, 1887-1907.

VIRGINIA STATION, Blacksburg, S. W. Fletcher, Director.

The Cultivation of Potatoes. By A. M. Soule and P. O. Vanatter. (Bulletin 174, pp. 125-139, figs. 8.)

The results of variety and cultural tests with potatoes in 1906 and 1907 are reported in this bulletin.

**Cooperative Tobacco Investigations.** By E. H. Mathewson, B. G. Anderson, and R. P. Cocke. (Bulletin 175, pp. 145-171, figs. 9.)

This bulletin gives the results of tobacco investigations conducted by the station and the Bureau of Plant Industry of this Department, looking toward the improvement of tobacco, making its production more profitable, and keeping up the fertility of the soil.

**Hog Feeding.** By W. J. Quick and A. P. Spencer. (Bulletin 176, pp. 3-14, figs. 2.)

Two experiments are reported in this bulletin: (1) To determine the relative values of the two protein feeds, blood meal and skimmed milk, as supplements to corn; and (2) to determine the relative values of well seasoned, hard, and flinty corn and new corn, coming directly from the shuck, being more moist, more palatable, and easier to masticate.

**WASHINGTON STATION,** Pullman, R. W. Thatcher, Director.

**Thirteenth Annual Report, 1903.** (Annual Report, 1903, pp. 28.)

This contains the report by the director, which includes brief reports by the heads of departments reviewing the work of the station during the year, and a financial statement to June 30, 1903.

**Fourteenth Annual Report, 1904.** (Annual Report, 1904, pp. 20.)

A report similar in scope to the above for the year ended June 30, 1904.

**Fifteenth Annual Report, 1905.** (Annual Report, 1905, pp. 31.)

A report similar in scope to the above for the year ended June 30, 1905.

**WYOMING STATION,** Laramie, J. D. Towar, Director.

**Irrigation of Barley.** By H. T. Nowell. (Bulletin 77, pp. 3-20, pls. 3, dgm. 1.)

The objects of the experiments described in this bulletin were: "(1) To determine the amount of water applied by irrigation that gives maximum yields for brewing barley and in some measure the amount of water that gives best quality of grain, both for feeding and for brewing purposes; and (2) to find which method of applying the water in irrigation gives most satisfactory results."

**Digestion Experiments—II.** By H. G. Knight, F. E. Hepner, and T. F. McConnell. (Bulletin 78, pp. 3-44, figs. 4.)

This bulletin gives the results of digestion experiments with sheep to determine the nutritive value of native hay, oat straw, pea hay, sweet clover, and alfalfa.

**United States Department of Agriculture,  
OFFICE OF EXPERIMENT STATIONS,  
A. C. TRUE, Director.**

**LIST OF STATION PUBLICATIONS RECEIVED BY THE OFFICE OF  
EXPERIMENT STATIONS DURING SEPTEMBER, 1908.**

NOTE.—These publications are not distributed by the Department of Agriculture, but can usually be obtained, as far as the supply will permit, by applying to the stations issuing them.

**CALIFORNIA STATION, Berkeley, E. J. Wickson, Director.**

Southern California Pathological Laboratory and Citrus Experiment Station. By R. E. Smith. (Circular 35, pp. 11, figs. 4.)

The text of the law establishing this laboratory is presented and the location of the laboratory, the opportunities for advanced research work open to properly prepared students, and the situation of the citrus experiment station in connection with the laboratory work are described.

Instruction in Practical Agriculture at the University Farm, Davis, California. (Circular 39, pp. 3-18, figs. 19.)

This circular contains announcements of the farmers' short courses for 1908 and the school of agriculture for 1909.

**COLORADO STATION, Fort Collins, L. G. Carpenter, Director.**

Arsenical Poisoning of Fruit Trees. By W. P. Headden. (Bulletin 131, pp. 3-27, pls. 7.)

The results are given of investigations conducted in different orchards in the State to determine the accumulation of arsenic in the soil as a result of continuous spraying and the effects of this substance on the life of the trees.

**CONNECTICUT STORRS STATION, Storrs, L. A. Clinton, Director.**

Nineteenth Annual Report, 1907. (Annual Report, 1907, pp. XXV + 179, figs. 44.)

This contains a financial statement for the fiscal year ended June 30, 1907, brief reports by the director and the heads of departments reviewing the work of the station during the year, reprints of Bulletins 43-48, and the following special articles: Abortion, milk and butter yields of heifers compared with mature cows, yields of Guernsey heifers compared with mature cows, tests of cows for advanced registry, milk from different breeds, carbon dioxid under sitting hens, and meteorological observations at Storrs for the years 1905 and 1906.

**ILLINOIS STATION, Urbana, E. Davenport, Director.**

Lighting Country Homes by Private Electric Plants. By T. H. Amrine. (Circular 121, pp. 35, figs. 11.)

The purpose of this circular is to outline a plan of a private electric plant of sufficient size to light a country home properly with 25-volt tungsten lamps. The topics discussed are: Concerning artificial illumination, selection of fixtures and planning of lighting, design of plant, estimate of cost of plant, suggestions about ordering apparatus, operation and care of apparatus, and cost of operation. A glossary of technical terms is appended.

Seven Years' Soil Investigation in Southern Illinois. By C. G. Hopkins, J. H. Pettit, and J. E. Readhimer. (Circular 122, pp. 4.)

A summary of soil fertility and suggestions for soil treatment are presented in this circular.

KANSAS STATION, Manhattan, J. T. Willard, Acting Director.

Alfalfa. By G. F. Freeman et al. (Bulletin 155, pp. 183-345, figs. 60.)

This bulletin contains a comprehensive résumé of the latest knowledge on the seeding, growing, curing, and use of alfalfa, and was prepared by the members of the station staff for the purpose of supplying definite information concerning this plant and encouraging the extension of its culture in Kansas.

MAINE STATION, Orono, C. D. Woods, Director.

Poultry Work at the Maine Station. By C. D. Woods. (Bulletin 157, pp. 203-218, dgm. 1.)

This bulletin summarizes the poultry work of the station up to 1908, gives a brief outline of the investigations now under way which embody changes from the preceding work, and outlines the future poultry experiments planned by the station.

Food of Man Studies. By L. H. Merrill. (Bulletin 158, pp. 219-238.)

Analyses of a large number of samples of foods, including tropical fruits and vegetables, together with experiments to determine the digestibility of certain products, are reported in this bulletin.

Appliances and Methods for Pedigree Poultry Breeding. By R. Pearl and F. M. Surface. (Bulletin 159, pp. 239-274, figs. 13.)

The methods which have proved to be useful in the pedigree poultry breeding work of the station are here described for the benefit of other breeders who may be interested in keeping exact pedigrees of poultry either for scientific or for practical purposes.

MARYLAND STATION, College Park, H. J. Patterson, Director.

Twenty-first Annual Report, 1908. (Annual Report, 1908, pp. XXXI + 298, figs. 43.)

This contains a report by the director on the work and expenditures of the station during the year, and reprints of Bulletins 119 to 128, inclusive.

MICHIGAN STATION, East Lansing, R. S. Shaw, Director.

Fertilizer Analyses. By A. J. Patten, S. L. Jodidi, and C. B. Collingwood. (Bulletin 252, pp. 3-32.)

The results of fertilizer inspection in Michigan, including analyses of 171 samples collected during the season of 1908, are reported in this bulletin.

MISSISSIPPI STATION, Agricultural College, W. L. Hutchinson, Director.

Report of the Work at the Holly Springs Station for 1907. By C. T. Ames. (Bulletin 110, pp. 7.)

This bulletin contains fertilizer results with cotton, corn, and cowpeas, also the information so far obtained with grasses and forage crops.

Experiments in Feeding Dairy Cows. By J. S. Moore. (Bulletin 111, pp. 6.)

This bulletin discusses: The effect of feeding grain to cows getting soiling crops, feeding soiling crops vs. cotton-seed meal, feeding large, medium, and small grain rations to dairy cows, value of corn silage as a feed for dairy cows, protecting cows from hot sun in summer, and the influence of shelter for dairy cows.

Silage vs. Hulls and Meal. By A. K. Risser and R. R. Welch. (Bulletin 112, pp. 2-8.)

In this bulletin are presented the results of feeding one dairy herd on a silage ration as compared with the results of feeding seven other dairy herds on hulls and cotton-seed meal, the usual dairy ration of the South, with the purpose of showing that improvement can be made in the quantity and quality of milk produced by a better system of feeding.

Cotton Experiments, 1907. By W. R. Perkins. (Bulletin 113, pp. 7, chart 1.)

Notes on variety, cultural, and breeding work with cotton in 1907 are given in this bulletin.

NEBRASKA STATION, Lincoln, E. A. Burnett, Director.

Twenty-first Annual Report, 1907. (Annual Report, 1907, pp. XXXIII + 107, pls. 10, figs. 28.)

This contains a report by the director reviewing the different lines of station work and presenting a financial statement to June 30, 1907, and the following special articles: Some tomato fruit rots during 1907, a new form of *Sphaeropsis* on apples, seed treatment for the smuts of winter barley, the mold of maple sirup, a rot of grapes due to *Pestalozzia uricola*, a strength test of harness leather, and loco weed poisoning in horses.

NEVADA STATION, Reno, J. E. Stubbs, Director.

The European Elm Scale (*Gossyparia spuria*). By S. D. Doten. (Bulletin 65, pp. 5-34, pls. 14.)

The purpose of this bulletin is to set forth the serious nature of the problem relating to the protection of the elm trees of the State from the ravages of the elm scale and to suggest means for the control of this pest. The life history of the insect is described and illustrated in detail.

NORTH CAROLINA STATION, West Raleigh, C. B. Williams, Director.

Handling and Marketing of Milk and Cream. By J. Michels. (Bulletin 198, pp. 4-24, figs. 13.)

The investigations reported in this bulletin were undertaken with a view to aiding in the improvement and extension of the milk and cream industry in North Carolina.

NORTH DAKOTA STATION, Agricultural College, J. H. Worst, Director.

Eighteenth Annual Report, 1907. (Annual Report, 1907, pp. 84.)

This contains reports by the director and the heads of departments reviewing the work of the station during the year, and a financial statement to June 30, 1907.

OHIO STATION, Wooster, C. E. Thorne, Director.

The Maintenance of Fertility. (Bulletin 184, pp. 229-305.)

This bulletin gives statistics of production in field experiments with fertilizers and manures from 1894 to 1906, inclusive. An appendix gives the results of numerous analyses of manures made during the progress of the investigations.

The More Important Insects Affecting Ohio Shade Trees. By J. S. Houser. (Bulletin 194, pp. 169-243, figs. 47.)

This bulletin describes the various insects affecting shade trees and gives methods of controlling these pests, with particular reference to the protection of shade and ornamental trees in towns and cities.

Feeding Work Horses. By B. E. Carmichael. (Bulletin 195, pp. 245-263, figs. 9, dgms. 2.)

The results of experiments begun in the spring of 1907 to determine the relative merits of corn and oats as feed for horses are presented in this bulletin as a progress report in the investigations.

Cooperative Forestry Work. By W. J. Green and E. Secrest. (Circular 82, pp. 9, figs. 4.)

This circular gives directions for the planting, care, and management of woodlots, with notes on the cooperative forestry work conducted by the station during the past few years.

Plans and Summary Tables of the Experiments at the Central Farm, Wooster, on the Maintenance of Soil Fertility Arranged for Reference in the Field. (Circular 83, pp. 24, dgms. 6.)

The results of rotation experiments, giving the new data obtained from each successive crop since the general publication of the work in Bulletins 182, 183, and 184 in the year 1906 are reported in this circular.

Cooperative Wheat Variety Work. (Circular 84, pp. 4.)

Notes are presented in this circular on the conditions under which the cooperative variety tests with wheat to determine the varieties best adapted for different parts of the State should be carried out by the farmers cooperating in the work.

OKLAHOMA STATION, Stillwater, W. L. English, Director.

Texas Fever. By L. L. Lewis. (Bulletin 81, pp. 3-32, figs. 19.)

This bulletin presents the essential facts relating to Texas fever, including the losses caused by the disease, and gives the life history of the tick, points out how it may be identified, considers the nature, symptoms, and treatment of the disease, and makes suggestions for tick eradication.

Summary of Experiment Station Work. (Circular of Information 12, pp. 6.)

This circular contains a brief statement of the lines of work which have engaged the attention of the station since its organization in 1891.

OREGON STATION, Corvallis, J. Withycombe, Director.

Incubation Experiments. By J. Dryden. (Bulletin 100, pp. 3-32, figs. 6.)

The purposes of the experiments described in this bulletin were to determine (1) the relative efficiency of natural and artificial incubation, and (2) to devise improvements in incubation and brooding with the view of preventing losses in artificial methods.

SOUTH CAROLINA STATION, Clemson College, J. N. Harper, Director.

Analyses of Commercial Fertilizers. By H. M. Stackhouse and M. B. Hardin. (Bulletin 138, pp. 3-40.)

This bulletin contains the results of inspection work during the season of 1907-8, including analyses of 729 samples of fertilizers.

TEXAS STATION, College Station, H. H. Harrington, Director.

Winter Bur Clover. By W. C. Welborn. (Bulletin 108, pp. 3-6.)

This bulletin points out the value of bur clover as a food for stock, as a cover crop, and as a green manure for orchards, and gives directions for the inoculation and culture of this plant.

VIRGINIA STATION, Blacksburg, S. W. Fletcher, Director.

Sugar Beets in Virginia. By W. B. Ellett. (Circular 1, pp. 4.)

The results of experiments in the culture of sugar beets in Virginia, together with notes on the prospects of developing the sugar-beet industry in the State are briefly presented in this circular.

How the Experiment Station can be of Service to the Farmers of Virginia. (Circular 2, pp. 20, figs. 9.)

An outline of the station's organization, equipment and practical work accomplished and in operation for the instruction of farmers in Virginia is presented in this circular.

# United States Department of Agriculture,

OFFICE OF EXPERIMENT STATIONS,

A. C. TRUE, Director.

## LIST OF STATION PUBLICATIONS RECEIVED BY THE OFFICE OF EXPERIMENT STATIONS DURING OCTOBER, 1908.

NOTE.—These publications are not distributed by the Department of Agriculture, but can usually be obtained, as far as the supply will permit, by applying to the stations issuing them.

**ALABAMA COLLEGE STATION, Auburn, J. F. Duggar, Director.**

Feeds Supplementary to Corn for Southern Pork Production. By D. T. Gray, J. F. Duggar, and J. W. Ridgeway. (Bulletin 143, pp. 27-77.)

This bulletin gives a summary of three years' work in pig production, the object being to compare the results of finishing hogs upon corn alone and upon corn supplemented with either green crops or concentrates.

**CALIFORNIA STATION, Berkeley, E. J. Wickson, Director.**

The California Grape Root-Worm. By H. J. Quayle. (Bulletin 195, pp. 26, figs. 18.)

The distribution, economic importance, life history and habits, and means of controlling the California grape root-worm (*Adorus obscurus*) are presented in this bulletin.

Eucalyptus in California. By N. D. Ingham. (Bulletin 196, pp. 29-112, figs. 69.)

This bulletin presents information relating to the possibilities and methods of growing eucalyptus trees in California, the commercial qualities of the different species, their adaptation to conditions in various parts of the State, and the quality and amount of the product which can reasonably be expected from them.

Grape Culture in California. Improved Methods of Wine Making.

Yeast from California Grapes. By F. T. Bioletti and H. C. Holm. (Bulletin 197, pp. 115-175, figs. 25.)

This bulletin describes the difficulties of grape culture in California with particular reference to phylloxera, resistant vines, and diseases of grapes, gives the results of experiments at the station on the principles and methods of wine making, and reports a study of yeasts derived from California grapes.

The Grape Leaf-Hopper. By H. J. Quayle. (Bulletin 198, pp. 117-219, figs. 23.)

This bulletin describes the life history and habits of the grape leaf-hopper (*Typhlocyba comes*) and gives the results of experiments for the control of this pest.

**FLORIDA STATION, Gainesville, P. H. Rolfs, Director.**

Fungus Diseases of Scale Insects and Whitefly. By P. H. Rolfs and H. S. Fawcett. (Bulletin 94, pp. 5-17, figs. 20.)

Life history notes on six fungi which attack scale insects and the whitefly in Florida are given in this bulletin, with directions for securing and applying the fungi to infested trees.

Dwarf Essex Rape for Winter Forage. By J. M. Scott. (Bulletin 95, pp. 21-25, figs. 2.)

Notes on the culture of rape, the advantages of this crop to Florida conditions, its value as a winter green forage crop, and how to feed it to live stock are given in this bulletin.

IOWA STATION, Ames, C. F. Curtiss, Director.

Modern Silo Construction. By J. B. Davidson and M. L. King. (Bulletin 100, pp. 94-150, figs. 45.)

This bulletin gives the results of an investigation into the success and construction of various types of silos in use throughout the State, and a design of a new type of silo constructed of common building tile is submitted.

KENTUCKY STATION, Lexington, M. A. Scovell, Director.

Wheat—Test of Varieties; Chemical Study of Varieties. By W. H. Scherffius and H. Woosley. (Bulletin 135, pp. 327-340, pls. 11.)

The results of experiments in the test of varieties of wheat grown at the station are presented for the purpose of aiding the farmers of central Kentucky to select high-producing varieties of wheat. Analyses of the different grains grown are also presented.

LOUISIANA STATIONS, Baton Rouge, W. R. Dodson, Director.

A Preliminary Report on Some Diseases of Chickens. By H. J. Milks. (Bulletin 108, pp. 3-11, pls. 4.)

Notes are given in this bulletin on the causes, symptoms, treatment, and other data relating to entero-hepatitis or blackhead and a bacterial disease of young chicks.

Rotation Experiments with Cotton, Corn, Cowpeas, and Oats. By W. R. Dodson. (Bulletin 111, pp. 3-15.)

This bulletin gives a résumé of rotation experiments that have been carried on at Baton Rouge and at Calhoun for a number of years, in the expectation that by modifying the rotation to some extent it will be applicable to any part of Louisiana.

MARYLAND STATION, College Park, H. J. Patterson, Director.

Silos and Silage in Maryland. By H. L. Crisp and H. J. Patterson. (Bulletin 129, pp. 78, figs. 74.)

In this bulletin the construction of silos and the making and feeding of silage in Maryland are described, together with data on the kinds and composition of the silage fed to stock. Many silos in different parts of the State are illustrated and described.

Nurseries and Nursery Inspection. By T. B. Symons, J. B. S. Norton, and C. P. Close. (Bulletin 130, pp. 79-128.)

The purpose of this bulletin is "to place in the hands of all interested parties detailed information as to general methods of growing nursery stock and controlling insects and plant diseases, and the methods of inspection and certification which are followed not only in Maryland but in other States, together with a summary of the laws which govern interstate shipments."

MASSACHUSETTS STATION, Amherst, W. P. Brooks, Director.

Meteorological Observations. By J. E. Ostrander and R. C. Lindblad. (Meteorological Bulletin 237, pp. 4.)

This is a summary for September, 1908.

**MICHIGAN STATION**, East Lansing, R. S. Shaw, Director.

Corn: Selecting, Storing, Curing, and Testing for Seed. By J. A. Jeffery. (Circular 3, pp. 19-30, figs. 17.)

This circular discusses the selection, storing, curing, and testing of corn for seed.

**MINNESOTA STATION**, St. Anthony Park, St. Paul, E. W. Randall, Director.

The Rotation of Crops. By W. M. Hays et al. (Bulletin 109, pp. 281-358, figs. 12.)

This bulletin contains a report on the results of ten years' work on 44 rotation plats, together with a discussion of the influence of the rotation of crops and continuous cultivation upon the composition and fertility of soils.

Installation of an Experimental Drainage System. By W. Robertson and J. T. Stewart. (Bulletin 110, pp. 3-99, figs. 62, map 1.)

A detailed account of the survey, plans, installation, and cost of an experimental drainage system at the northwest experiment farm at Crookston, Minn., with an illustrated description of the excavating machinery used in the Red River valley.

Flour Bleaching. By H. Snyder. (Bulletin 111, pp. 101-143, figs. 3.)

This bulletin gives the results of experiments in the bleaching of flours to hasten the natural process of bleaching, and discusses the influence of bleaching upon the bread-making quality of flour as determined by baking tests with bleached and unbleached flours of the same grade.

**MISSISSIPPI STATION**, Agricultural College, W. L. Hutchinson, Director.

The Insect Pest Law. By G. W. Herrick. (Circular, June, 1908, pp. 7, fig. 1.)

The text of the insect pest law approved March 19, 1908, is reported and discussed in this circular.

**NEW HAMPSHIRE STATION**, Durham, E. D. Sanderson, Director.

Caterpillars Injuring Apple Foliage in Late Summer. By E. D. Sanderson. (Bulletin 139, pp. 207-228, figs. 13.)

Notes are given in this bulletin on the life history and habits of the fall webworm, yellow-necked and red-humped apple caterpillars, hickory tiger moth, and rusty and white-marked tussock moths, with the best-known remedies for the control of these pests.

The Apple Leaf-Aphis. By E. D. Sanderson. (Circular 3, pp. 6, figs. 4.)

Notes on the life history of the apple leaf-aphis with means of control are given in this circular.

The Oyster-Shell Scale. (Circular 4, pp. 4, figs. 3.)

In this circular notes are given on the life history of the oyster-shell scale with means of controlling this pest.

The San José Scale. By E. D. Sanderson. (Circular 5, pp. 12, pl. 1, figs. 5.)

Life history and economic notes are given in this circular on the San José scale, and remedies for its control are presented.

A Circular of Information Concerning the New Hampshire Agricultural Experiment Station. (Circular 6, pp. 15, figs. 10.)

Notes are given in this circular on the organization and lines of work conducted by the different departments of the station, with notes on what the station can and can not do for the farmers of the State.

**NEW YORK CORNELL STATION, Ithaca, L. H. Bailey, Director.**

**Care and Preservation of Street Trees.** By A. D. Taylor. (Bulletin 256, pp. 451-491, figs. 37.)

This bulletin is the first of two publications relating to the care and preservation of shade trees apart from the subject of tree diseases and their treatment. The author aims to show by means of illustrations and discussion the harm to which shade trees are subjected through ignorance and neglect.

**Defects in American Cheddar Cheese.** By C. A. Publow. (Bulletin 257, pp. 3-16.)

"The purpose of this bulletin is to provide a ready reference that will aid New York manufacturers of American Cheddar cheese to prevent or remedy the most common defects in their product."

**OHIO STATION, Wooster, C. R. Thorne, Director.**

**Meteorological Summary—Press Bulletins—Index.** (Bulletin 185, pp. 295-324.)

This bulletin contains a summary of meteorological phenomena for 1906, reprints of Press Bulletins 276-285 issued during 1907, and a subject index.

**Twenty-sixth Annual Report, 1907.** (Annual Report, 1907, pp. XXV, pl. 1.)

This contains a financial statement for the year ended June 30, 1907, the report of the director reviewing the work of the station in 1907, and a list of publications issued during the year.

**OREGON STATION, Corvallis, J. Withycombe, Director.**

**Comments Upon the State Fertilizer Law.** By A. L. Knisely. (Bulletin 97, pp. 3-11.)

In this bulletin the text of the State fertilizer law is presented and discussed.

**PENNSYLVANIA STATION, State College, T. F. Hunt, Director.**

**Some Poultry Experiments.** By T. I. Mairs. (Bulletin 87, pp. 3-48, figs. 13.)

The results of tests begun in 1906 on the growth of chicks of different classes and breeds are reported in this bulletin, the specific points under observation being the rate of growth, food consumed, weight at different ages, relative weight of pullets and cockerels, and losses in dressing and drawing.

**RHODE ISLAND STATION, Kingston, H. J. Wheeler, Director.**

**Feeding Experiments with Chickens, Cockerels, and Turkeys.** By J. W. Bolté. (Bulletin 126, pp. 125-139, pls. 3.)

This bulletin discusses the effect of bone constituents on concentrates for the winter feeding of chickens and gives the results of crate-fattening experiments with cockerels and of experiments in fattening turkeys. Analyses of the feeds used are also reported.

**Some Recent Feeding Experiments. Analyses of Commercial Feeding Stuffs.** By B. L. Hartwell, J. F. Morgan, and L. F. Whipple. (Bulletin 127, pp. 143-179.)

In this bulletin a résumé of the results of feeding experiments that have been conducted by many of the State experiment stations is presented with a view of assisting "the Rhode Island farmer to avail himself of some of the recent experiments in animal feeding which may be of interest under his particular conditions." Analyses of a large number of samples of feeding stuffs are also included.

**A Further Study of Soil Treatment in Greenhouse Culture.** By H. J. Wheeler and G. E. Adamis. (Bulletin 128, pp. 183-194+VII.)

In continuation of previous work reported in Bulletin 107, an account is given of the results secured in the growing of radishes, lettuce, and carnations by the employment of subsoil modified by different combinations of chemical manures and by the introduction of finely cut rye straw for the improvement of the physical condition of the subsoil. An appendix gives a list of station publications available for distribution on May 1, 1908.

**Experiments with Feldspathic Rock as a Source of Potassium.** By B. L. Hartwell and F. R. Pember. (Bulletin 129, pp. 197-206, pl. 1.)

The results of experiments to test the efficacy of ground feldspathic rock as a source of potassium are reported, tests being made with wheat seedlings in water cultures and of Japanese millet and wheat seedlings in soils.

**Analyses of Commercial Fertilizers.** By B. L. Hartwell et al. (Bulletin 130, pp. 3-11.)

"This bulletin contains the analyses of such potato and vegetable fertilizers as were found on sale in Rhode Island during the spring of 1908, as well as certain other brands carrying guarantees similar to those usually accompanying potato fertilizers. The analyses of the samples of ground bones which were collected in 1908 are likewise included."

**Further Soil Tests in Paraffined Wire Baskets.** By B. L. Hartwell and F. R. Pember. (Bulletin 131, pp. 15-31.)

This bulletin reports the results of work with the paraffined wire basket in soil tests during 1907, the various crops being fertilized with different amounts of potassium, nitrogen, and phosphorus from different sources in conclusion of tests reported in Bulletins 120 and 121 of the station.

**TEXAS STATION, College Station, H. H. Harrington, Director.**

**Commercial Fertilizers and Poisonous Insecticides in 1907-8.** By G. S. Fraps. (Bulletin 107, pp. 5-16.)

This bulletin deals with the State control of commercial fertilizers and insecticides, and gives analyses and valuation of fertilizers collected in the course of fertilizer inspection during the season of 1907-8 and a list of insecticides registered under the law to May 1, 1908.

**The Determination of Cotton-seed Hulls in Cotton-seed Meal.** By G. S. Fraps. (Bulletin 109, pp. 3, 4.)

The method of analysis adopted is described.

**WASHINGTON STATION, Pullman, R. W. Thatcher, Director.**

**Orchard Cover Crops.** By W. S. Thornber. (Popular Bulletin 8, pp. 4.)

This bulletin points out the advantages of cover crops to orchards, gives directions for preparing the land and planting the seed, and presents the results of tests with various crops for cover-crop purposes.

**Some New Hybrid Wheats.** By E. E. Elliott and C. W. Lawrence. (Popular Bulletin 9, pp. 8.)

With a view of improving the quality of wheat grown in the State, this bulletin discusses methods of improving wheat and the hybridization work carried on at the station, and gives notes on 10 hybrids grown at the station and on the distribution of improved seed in 1907.

**WISCONSIN STATION, Madison, H. L. Russell, Director.**

**The University Dairy Herd; Management and Records, 1907-8.** By G. C. Humphrey and F. W. Woll. (Bulletin 167, pp. 3-27, pls. 2, figs. 5.)

This bulletin outlines the system of managing and caring for the university herd and gives the results obtained during the year ended May 13, 1908.

## WYOMING STATION, Laramie, J. D. Towar, Director.

Ration Experiments with Lambs, 1906-7. By G. E. Morton. (Bulletin 79, pp. 3-14, figs. 3.)

The experiments reported in this bulletin were made to answer the following questions: (1) What gains will lambs make upon peas in the field; (2) how many lambs will an acre of peas finish; (3) will it not pay to feed pea hay rather than turn the lambs upon peas in the field; (4) how does pea feeding compare with the alfalfa and corn ration; (5) what grain gives the best results with native hay for fattening lambs; and (6) is sweet clover hay of any value for feeding lambs?







Issued December 10, 1908.

# United States Department of Agriculture, A R

OFFICE OF EXPERIMENT STATIONS,

A. C. TRUE, Director.

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U. S. Department of Agriculture

## LIST OF STATION PUBLICATIONS RECEIVED BY THE OFFICE OF EXPERIMENT STATIONS DURING NOVEMBER, 1908.

NOTE.—These publications are not distributed by the Department of Agriculture, but can usually be obtained, as far as the supply will permit, by applying to the stations issuing them.

**ARKANSAS STATION**, Fayetteville, W. G. Vincenheller, Director.

The San José Scale in Arkansas. By C. F. Adams. (Bulletin 102, pp. 221-236, figs. 12.)

Historical and biological notes are given in this bulletin on the San José scale with directions for controlling this pest.

**GEORGIA STATION**, Experiment, M. V. Calvin, Director.

The Effect of Carbonates upon Nitrification. By W. L. Owen. (Bulletin 81, pp. 42, figs. 8.)

The investigations reported in this bulletin were made for the purpose of ascertaining if "there did not exist certain possibilities of stimulating the causative factors in nitrification to greater activities by supplying carbon, the element ordinarily so essential to bacterial development, in the form in which the conditions of life of the nitrifying bacteria indicate as being best suited for their needs."

The Mendelian and DeVriesian Laws Applied to Cotton Breeding. By R. J. H. DeLoach. (Bulletin 83, pp. 43-63, figs. 7, dgms. 2.)

This bulletin discusses the relation of plant breeding to evolution and gives the results of investigations conducted in 1908 in the application of Mendel's law to cotton breeding with the object of showing that substantial progress can be made in the improvement of the quality and quantity of cotton raised by the careful practice of selection. A bibliography is included.

**ILLINOIS STATION**, Urbana, E. Davenport, Director.

Distance Between Hills for Corn in the Illinois Corn Belt. By A. N. Hume, O. D. Center, and L. Hegnauer. (Bulletin 126, pp. 357-374.)

The purpose of this bulletin is to report "the progress of an investigation to determine the distance apart at which hills of corn must be checked to return the highest and most profitable yields, and as a corollary to this to determine whether the planting of two kernels per hill at closer distances may give any better distribution of stalks than the planting of three kernels per hill at greater distances."

A Study of the Factors Influencing the Improvement of the Potato. By E. M. East. (Bulletin 127, pp. 375-456, figs. 10.)

The study reported in this bulletin deals with such questions as have naturally arisen in trying to form a basis for practical work in potato improvement, and includes an examination of the literature bearing upon the possibilities of attaining this end.

Ten Generations of Corn Breeding. By L. H. Smith. (Bulletin 128, pp. 457-575, figs. 2.)

The results of ten years' experiments in breeding corn to modify the composition of the grain and thereby adapting it to various special purposes are reported in this bulletin.

INDIANA STATION, Lafayette, A. Goss, Director.

Records from Indiana Dairy Herds. By O. F. Hunziker, H. A. Hopper, and H. J. Fidler. (Bulletin 127, pp. 163-216, figs. 26.)

"The purpose of the two years' work reported in this bulletin is to furnish the farmers and dairymen of Indiana with information concerning the performance of individual cows in the herds studied."

LOUISIANA STATIONS, Baton Rouge, W. R. Dodson, Director.

Experiments with *Bacterium anthracis*, Anthrax Vaccines, and Hyperimmunization. By H. J. Milks. (Bulletin 109, pp. 3-21.)

This bulletin reports: (1) Investigations as to the probability of decaying vegetable matter in fields and pastures furnishing nutritive material for the growth of anthrax organisms, and the perpetuation of the disease thereby; (2) investigations as to the reliability and value of vaccines, and the comparative merits of the methods of preventive vaccination now available to the planter; and (3) investigations as to the possibility of producing a superlative degree of immunity by continued vaccination of increasing severity, and the possible value of serum of hyperimmunized animals as an aid to hastening immunity, or as a curative agent.

Comparison of Cotton-Seed Meal and Hulls, with Cold Pressed Cake as a Dairy Feed. By J. G. Lee, jr., and T. E. Woodward. (Bulletin 110, pp. 3-22.)

The results of tests with 12 cows as regards milk production and per cent of fat on these rations are tabulated and discussed in this bulletin.

Analyses of Commercial Fertilizers and Paris Green. By J. E. Halligan. (Bulletin 113, pp. 3-154.)

The results of fertilizer inspection in the State for the year 1907-8 are reported in this bulletin.

MASSACHUSETTS STATION, Amherst, W. P. Brooks, Director.

Meteorological Observations. By J. E. Ostrander and R. C. Lindblad. (Meteorological Bulletin 238, pp. 4.)

This is a summary for October, 1908.

MISSOURI STATION, Columbia, H. J. Waters, Director.

Beef Production on High-Priced Land. By H. J. Waters. (Circular of Information 24, pp. 45, figs. 12.)

This circular gives information for the feeding and care of cattle, with particular reference to the consumption of larger amounts of roughage in beef production, with notes on the station's experience during the past twelve years in the wintering and fattening of cattle on roughage and grain rations.

Rational Sheep Feeding. By F. B. Mumford. (Circular of Information 25, pp. 15, figs. 3.)

This circular gives information on (1) the feeding of breeding animals, (2) the feeding of young lambs, and (3) the finishing of partly grown lambs or of wethers by full feeding with grain.

**Feeding the Dairy Cow.** By C. H. Eckles. (Circular of Information 26, pp. 17, figs. 4.)

Directions for the proper feeding of roughage and grain rations to dairy cows, as well as their management while on pasture, for the economical production of milk, are presented in this circular.

**Feeding and Care of Horses.** By E. A. Trowbridge. (Circular of Information 27, pp. 10, figs. 3.)

This circular gives information regarding the feeding and care of stallions, breeding mares and foals, growing horses, and work horses.

**Swine Feeding.** By C. A. Willson. (Circular of Information 28, pp. 16, figs. 3.)

The care and management of pigs as conducted at the station are described with a view of interesting hog raisers in the more economical production of pork by a more systematic method of feeding the corn grown in the State.

**Immunization of Swine Against Hog Cholera.** By J. W. Connaway. (Circular of Information 29, pp. 22, figs. 8.)

This circular briefly reviews the history of immunization experiments against hog cholera and reports the results of cooperative experiments between the station and this Department to test the protective properties of blood from hyperimmunized hogs.

**Missouri Housekeepers' Conference Association.** (Circular of Information 30, pp. 42, fig. 1.)

This gives the constitution, a report of the meetings, and abstracts of the papers read at the first meeting of this association held at the University of Missouri, January 7-10, 1908.

**NEVADA STATION, Reno, J. E. Stubbs, Director.**

**Digestion Experiments with the Native Hay of the Truckee Meadows.** By S. C. Dinsmore and P. B. Kennedy. (Bulletin 64, pp. 5-23, pl. 1.)

This bulletin reports the results of experiments to determine the nutritive value of native hay, which is composed of a number of varieties of grasses, sedges, rushes, and clovers, in different portions of the stack, as well as the value of the second growth crop, or aftermath, which is cut long before maturity and consists of the young and tender portions of these plants.

**NEW HAMPSHIRE STATION, Durham, E. D. Sanderson, Director.**

**The Influence of Minimum Temperatures in Limiting the Northern Distribution of Insects.** By E. D. Sanderson. (Scientific Contributions 1, pp. 245-262, maps 7.)

This is a paper read at the Seventh International Zoological Congress held at Boston in 1907, and deals with the effects of low temperatures in limiting the dissemination of insect pests.

**The Fruit Spot of Apples.** By C. Brooks. (Scientific Contributions 2, pp. 423-456, pls. 7, figs. 2.)

This paper is a report of the results obtained in an effort to determine the cause of the brown spot of apples, its morphological and physiological characteristics, and the means of its prevention.

**NEW JERSEY STATIONS, New Brunswick, E. B. Voorhees, Director.**

**Insecticide Materials and Their Application: With Suggestions for Practice.** By J. B. Smith. (Bulletin 213, pp. 3-46.)

The conditions under which spraying for the control of insect pests and fungus diseases can be effectually done, together with directions for the preparation and application of insecticides and fungicides, are described in this bulletin.

**Analyses of Paris Green and Lead Arsenate.** By C. S. Cathcart. (Bulletin 214, pp. 3-14.)

The results of the station's inspection work during 1908 with Paris green and arsenate of lead are presented in this bulletin.

**Analyses and Valuations of Commercial Fertilizers. Analyses of Fertilizer Supplies, Home Mixtures, and Special Compounds.** By C. S. Cathcart et al. (Bulletin 215, pp. 3-39.)

This bulletin contains the results of fertilizer inspection in 1908, including analyses and valuations of 295 brands of fertilizers collected in the open market and of 134 samples of fertilizer supplies, 14 home mixtures, and 21 special compounds.

**NEW MEXICO STATION,** Agricultural College, L. Foster, Director.

**Injurious Insects.** By F. García. (Bulletin 68, pp. 5-63, figs. 35.)

This bulletin gives information regarding the life history and means of controlling the injurious insects which are more or less troublesome in New Mexico at the present time as well as of those which are likely to become pests in the future.

**NEW YORK CORNELL STATION,** Ithaca, L. H. Bailey, Director.

**Bean Anthracnose.** By H. H. Whetzel. (Bulletin 255, pp. 431-447, figs. 6.)

This bulletin contains a preliminary report on the results of investigations during the past two years on the anthracnose of beans and the means of its control.

**The Molting of Fowls.** By J. E. Rice, Clara Nixon, and C. A. Rogers. (Bulletin 258, pp. 19-68, figs. 22.)

With the object of securing facts as to the nature and growth of feathers and conditions that govern their development, several series of observations and a feeding experiment were undertaken, the results of which are presented in this bulletin.

**Testing the Germination of Seed Corn.** By M. P. Jones. (Circular 1, pp. 1-8, figs. 3.)

Notes are given in this circular on the selection of good seed ears, methods of testing germination, and care of seed corn.

**Fungicides.** By H. H. Whetzel. (Circular 2, pp. 9-16.)

Directions are given for the preparation of the most common fungicides, "together with lists of the more common diseases which careful experiments have shown to be effectively controlled by them."

**Some Essentials in Cheese Making.** By C. A. Publow. (Circular 3, pp. 17-24, fig. 1.)

Notes are given in this circular on the raw material—pure, clean milk, the building and its equipment, the skill of the maker, the direct process of manufacture, and the curing and subsequent handling of cheese.

**NEW YORK STATE STATION,** Geneva, W. H. Jordan, Director.

**May Weather and Fruit Harvests.** By F. H. Hall. (Bulletin 299, popular edition, pp. 2-8.)

A popular summary of Bulletin 299 which gives a detailed account of investigations on the relation of weather to the setting of fruit.

Is it Wise to Dip Nursery Stock? By F. H. Hall. (Bulletin 302, popular edition, pp. 2-4.)

A popular summary of Bulletin 302 which treats of the dipping of nursery stock in the lime-sulphur wash for the purpose of determining (1) the effectiveness of this wash on controlling the San José scale, and (2) the effects of this mixture upon the health of nursery trees.

Report of Analyses of Commercial Fertilizers Collected by the Commissioner of Agriculture During 1908. (Bulletin 304, pp. 255-331.)

This bulletin presents the analyses of fertilizers collected during 1908 under the provisions of the State fertilizer law.

The Sporotrichum Bud-Rot of Carnations and the Silver Top of June Grass. By F. C. Stewart and H. E. Hodgkiss. (Technical Bulletin 7, pp. 83-119, pls. 6.)

Descriptive and biological notes are given of the fungus and parasite associated in the spread of these diseases, together with inoculation experiments with both and a discussion of the relation of the mite to the fungus.

TENNESSEE STATION, Knoxville, H. A. Morgan, Director.

The Relation of Steer Feeding to Farm Economics. By F. C. Quereau. (Bulletin 79, pp. 3-28, figs. 13, charts 3.)

The results of experiments to test the feeding values of the most promising farm crops, with special reference to their efficiency in lengthening the feeding period of an acre's production and in producing more animal product at less cost, are reported in this bulletin.

Home-Grown Rations in Economical Production of Milk and Butter. By J. N. Price. (Bulletin 80, pp. 31-50.)

The results of feeding tests to demonstrate the value of soy beans and home-grown rations as compared with purchased rations in the economic production of milk and butter are reported in this bulletin.





Issued January 9, 1909.

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**LIST OF STATION PUBLICATIONS RECEIVED BY THE OFFICE OF  
EXPERIMENT STATIONS DURING DECEMBER, 1908.**

**NOTE.**—These publications are not distributed by the Department of Agriculture, but can usually be obtained, as far as the supply will permit, by applying to the stations issuing them.

**ALABAMA COLLEGE STATION, Auburn, J. F. Duggar, Director.**

Index, Vol. XIV, Bulletins 135–138 and Nineteenth Annual Report and Circular 1, January to December, 1906. (Index, Vol. XIV, pp. 109–112.)

Index, Vol. XV, Bulletins 139–141 and Twentieth Annual Report, January to December, 1907. List of Available Bulletins, June, 1908. (Index, Vol. XV, pp. 189–192.)

**CALIFORNIA STATION, Berkeley, E. J. Wickson, Director.**

The Tuberculosis Problem. By A. R. Ward and C. M. Haring. (Bulletin 199, pp. 221–234, figs. 2.)

This bulletin discusses the nature of bovine tuberculosis, gives the results of tuberculin tests made in different parts of the State, and makes suggestions for the control of the disease. A description is also given of the testing outfit with directions for making the tuberculin test.

Gum Disease of Citrus Trees in California. By R. E. Smith and O. Butler. (Bulletin 200, pp. 235–272, figs. 14.)

This bulletin considers the various citrus troubles which may be included in the category of gum diseases, showing the features which they have in common and discussing their nature, together with methods of prevention and cure.

Commercial Fertilizers. By J. S. Burd. (Bulletin 201, pp. 273–293.)

Analyses of 230 samples of fertilizers collected in the course of fertilizer inspection for the half year ended June 30, 1908, are reported in this bulletin.

Distribution of Seeds and Plants. By E. J. Wickson and R. E. Mansell. (Seed Bulletin 1908–9, pp. 6.)

This bulletin contains the aims and methods of seed distribution as carried on by the station, with notes on the kinds and characteristics of the garden vegetables and fruits for distribution in 1909.

**COLORADO STATION, Fort Collins, L. G. Carpenter, Director.**

Destruction of Concrete by Alkali. By W. P. Headden. (Bulletin 132, pp. 3–8.)

The effects of alkali upon concrete as determined by means of analyses of samples sent in to the station, as well as by the results of experiments, are presented in this bulletin.

A Few Orchard Plant Lice. By C. P. Gillette and E. P. Taylor. (Bulletin 133, pp. 3-47, pls. 2, figs. 3.)

This bulletin illustrates and describes the most serious plant lice with which orchardists in Colorado have to contend at the present time, with methods of combating these pests.

Orchard Plant Lice and Their Remedies. By C. P. Gillette and E. P. Taylor. (Bulletin 134, pp. 3-16.)

Descriptive notes are given in this bulletin on various aphids which attack fruits, with suggestions and the results of experiments for the control of these pests.

CONNECTICUT STATE STATION, New Haven, E. H. Jenkins, Director.

Report on Commercial Fertilizers, 1908. By E. H. Jenkins and J. P. Street. (Biennial Report, 1907-8, pt. 8, pp. 453-470+VIII.)

The results of fertilizer inspection work carried on by the station in 1908, including analyses of 287 brands of fertilizers on sale in the State, are reported.

INDIANA STATION, Lafayette, A. Goss, Director.

Concentrated Commercial Feeding Stuffs. By W. J. Jones, jr., O. C. Haworth, and J. B. Abbott. (Bulletin 131, pp. 305-465.)

The text of the State feeding-stuff law is presented in this bulletin together with the results of the inspection work carried on to June 30, 1908, under the provisions of the law.

IOWA STATION, Ames, C. F. Curtiss, Director.

A Study of Moisture in Butter. By G. L. McKay and J. Bower. (Bulletin 101, pp. 156-177.)

This bulletin discusses the importance of the moisture content of butter from the producers' and consumers' points of view and reports the results of experiments conducted at the station for the purpose of providing data which would enable butter makers to know within what range of percentages they may hope to maintain the water content and keep within the lawful standard. A method of control is also presented.

LOUISIANA STATIONS, Baton Rouge, W. R. Dodson, Director.

Orchard Report of Baton Rouge Station. (Bulletin 112, pp. 3-49, figs. 14.)

This bulletin presents a report of the results of tests with the varieties of fruits grown at the experiment station test orchard near Baton Rouge with a view of the information being valuable to fruit growers in the State.

MASSACHUSETTS STATION, Amherst, W. P. Brooks, Director.

Shade Trees. By E. A. Start, G. E. Stone, and H. T. Fernald. (Bulletin 125, pp. 3-64, figs. 34.)

This bulletin discusses the characteristics and value of the more important species of shade trees and their suitability for different environments in Massachusetts, gives brief directions for transplanting and pruning, describes the best methods of tree surgery, and includes chapters on the injurious effects of gas and electricity and the best methods of prevention. The more important insect enemies are also described and the best-known methods of treatment are given.

Meteorological Observations. By J. E. Ostrander and R. C. Lindblad. (Meteorological Bulletin 239, pp. 4.)

This is a summary for November, 1908.

MONTANA STATION, Bozeman, F. B. Linfield, Director.

Pig Feeding Experiments. By F. B. Linfield. (Bulletin 73, pp. 43-59.)

The experiments reported in this bulletin were conducted during the years 1905 to 1907, the main object of the eight tests reported being to study the value of a variety of supplemental foods in the economic fattening of hogs.

NEBRASKA STATION, Lincoln, E. A. Burnett, Director.

Foods Supplementary to Corn in Fattening Pigs. The Effect of Food on Breaking Strength of Bones. By E. A. Burnett. (Bulletin 107, pp. 3-39, figs. 9.)

The results of experiments to determine the classes of food which furnish the most profitable ration from the standpoint of the farmer engaged in raising pork for the market and also to determine the effect of these foods on the breaking strength of bones in growing pigs are reported in this bulletin.

Milking Machines. By A. L. Haecker and E. M. Little. (Bulletin 108, pp. 3-73, pl. 1, figs. 4.)

The topics discussed in this bulletin are: (1) Description of the milking machine, and its cost; (2) effect of the milking machine upon yearly records of production; (3) short period trials and detailed experiments; (4) time required to milk with machinery as compared with hand milking; (5) the influence of the milking machine upon the bacteriological condition of milk; and (6) answers submitted by dairymen.

NORTH DAKOTA STATION, Agricultural College, J. H. Worst, Director.

Milling and Baking Test. Tests of Flour Sold in North Dakota. By E. F. Ladd. (Bulletin 82, pp. 717-793.)

The investigations reported in this bulletin were undertaken to determine the relative milling and bread-making qualities of the two classes of wheats, Fife and Blue Stem, as compared with the Durums, and also for the purpose of bringing together the data regarding the range and composition of the wheats grown in North Dakota, and the composition of the flours made therefrom.

Chemically Treated Flours. By E. F. Ladd. (Special Bulletin 9, pp. 26.)

This bulletin discusses the bleaching of flour or the effect of nitrous acid upon the different constituents of a flour and gives the results of experiments to determine the effect of bleached flour extracts on rabbits.

Model Food Law Bill. By E. F. Ladd. (Special Bulletin 10, pp. 11.)

A model food bill drawn by a special committee of the Association of State and National Food and Dairy Departments and which may be used as the general law in the several States is presented in this bulletin.

PENNSYLVANIA STATION, State College, T. F. Hunt, Director.

Steer Feeding Experiments, 1907-8. By T. I. Mairs and W. H. Tomhave. (Bulletin 88, pp. 3-20, figs. 6, charts 2.)

The tests reported in this bulletin were made for the purpose of determining to what extent corn silage may be profitably fed to fattening steers. The test was designed to compare a limited grain ration with a full grain ration for fattening steers when fed in connection with corn silage and mixed hay and corn stover for roughage, the amount of digestible matter to be the same.

TEXAS STATION, College Station, H. H. Harrington, Director.

Steer Feeding Experiments. By J. C. Burns. (Bulletin 110, pp. 3-23, figs. 5.)

The experiments reported in this bulletin were conducted chiefly for the pur-

pose of determining the value of kafir corn, milo maize, molasses, and cotton-seed for fattening cattle.

Texas Fever. By M. Francis. (Bulletin 111, pp. 3-13, map 1, charts 3.)

This bulletin summarizes the work of the station during the past 20 years in efforts to limit the losses from Texas fever of high-class cattle imported into the State for breeding purposes.

WASHINGTON STATION, Pullman, R. W. Thatcher, Director.

Commercial Potato Growing. By A. G. Craig. (Popular Bulletin 11, pp. 7.)

This bulletin gives directions for the culture of potatoes in Washington, discussing the soil, fertilizers, preparation of the soil, seed selection, planting, varieties, cultivation, harvesting, and marketing. Notes are also given on the culture of potatoes in irrigated districts.





